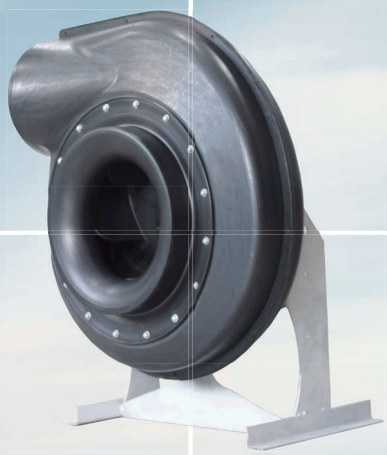
Backward Curve High Efficiency Chemical Resistant Plastic Fan

CHEM Series: Direct Driven & Belt Driven



Air in Motion.

Wolter Fans.

R04.B

Backward Curve High Efficiency Chemical Resistant Plastic Fan

CHEM Series: Direct Driven & Belt Driven

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CHEMCO CHEMICAL RESISTANT PLASTIC FAN

CHEM-B = CHEMCO BACKWARD CURVE high efficiency chemical resistant plastic fan

Role

Chemco has played a leading role in the manufacturing of equipment made from anti-corrosive and chemical resistant plastics. These equipments are most suitable for use in the ventilation & noise control systems, clean rooms engineering, plating equipment, laboratory sinks & containers, scrubbers, tank constructions as well as custom design systems.

Experience

The years of experience and know-how in the areas of plastics, its designing capability enables Chemco to develop a complete range of backward curve anticorrosive fans. The fans are specially designed for high efficiency, reliability, with superior corrosion resistance quality. They are also developed to give trouble-free service, and are economical in use.

Application

Chemco corrosive resistant plastic fans are specially developed to handle heavy corrosive fumes, vapours, contaminated air and aggressive gases. Such fans are suitable for use in the test laboratory, hospital, food industry, electronic industry, chemical and electroplating industry, clean rooms engineering etc. They are also suitable for air conditioning application in the building industry.

Quality

Chemco supply a complete range of highly quality and efficient backward curve fans, which offer an excellent performance with a low noise level. All fans drive and accessories are produced to strict international quality standards. Only the best quality materials are used and all fans are tested and rated in accordance with ISO 5801, AMCA 210 and AMCA 260 as well.

Products and Performance

Chemco centrifugal fans and roof fans with horizontal or vertical outlet have performance capacity of up to 100,000 cmh and operating at a static pressure of up to 4000 Pa.

Thermoplastic materials such as PP, PE, PVC, PVDF or GRP that offer the best guarantee to resist most chemicals are available.

Sound Level

In order to make possible an assessment of sound projection adequate to human ear the A-assessed description of sound level according to ISO 13347-2 or AMCA 300 has been chosen.

The ascertaining of the sound power level follows the enveloping surfaces method according to ISO 13347-2 or AMCA 300.

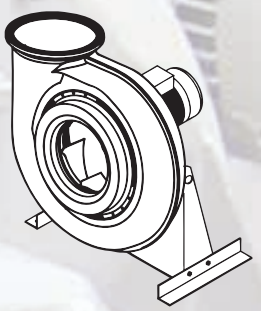
Standard Models and Designs

Model CHEM xxx-315-317 DD to xxx-560-570 DD

- With direct drive
- Plastic injection moulded casing with PP as standard.
- Casing suitable for dual rotations mounted on the galvanised steel support comes with flanged standard motor.
- Impeller mounted overhung on the motor shaft.
- Fan base with angle support
- Round straight inlet and outlet flange as standard

Model CHEM xxx-315-317 BD to xxx-560-570 BD

- With direct drive
- Plastic injection moulded casing with PP as standard.
- Casing are mounted on the galvanised steel support come with aluminium cast flanged-on twin bearing housing.
- Impeller fixed overhung on the shaft.
- Fan base with channel support include motor mounting plate

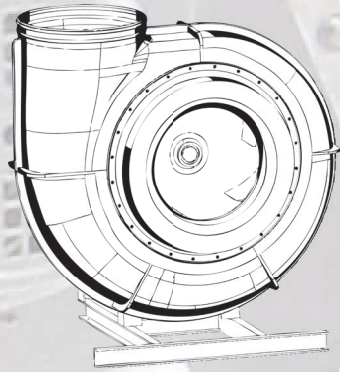


Model CHEM xxx-630-631 DD to xxx-710-711 DD

- With direct drive
- Plastic injection moulded casing with PP as standard.
- Casing mounted on galvanised steel support come with flange or foot mounted motor.
- Impeller mounted overhung on the motor shaft.
- Fan base with channel support

Model CHEM xxx-630-631 BD to xxx-710-711 BD

- With belt drive.
- Plastic injection moulded casing with PP as standard.
- Casing mounted on galvanised steel support frame come with "pedestal" mounted self-aligning ball bearing units.
- Impeller fixed overhung on the shaft.
- Fan base with channel support include motor mounting plate



All CHEM-B 315 to CHEM-B 710 impeller come with PP as standard. Other material as optional. The fan casing usually of PP material, good for chemical resistance, can also be blended with composites to overcoming high temperature, flame retardant, UV or Electrostatic Discharge protection to suit customer's requirements.

Standard Colour

All PP - Black as standard

PANTONE Warm Grey 1C as optional upon request

Safety Features

All drive-belts, pulleys, projecting set screws, keys and other rotating parts have heavy-duty perforated sheet as protective guards to meet safety requirement. All fans are labelled with nameplate securely attached on each fan showing the serial and model number, fan & drive duties, rotation of flow and date of manufacture.

Chemical Resistant Centrifugal Plastic Fan Design

Casing

The fan casing is constructed from thermoplastic PP blended with ultraviolet protection as standard. PVC, PE, PVDF or Glass reinforced plastic -Vinyl ester grade (GRP or FRP) as optional upon request. The fan casing is built to a true volute form and has high efficiency inlet cone to give an even distribution of air over the full width of the runner. The fan casing, model CHEM-B 315 to 710-65 are completely of plastic injection moulded suitable for dual rotation at any position. The plastic injection moulded backplate or inlet cover can be easily removed for changing of rotation, maintenance and services. Fans casing with outlet flange come with chemical resistant seal to prevent air leakage. Casing usually with PP as standard.

The fans casing come with round straight outlet with chemical resistant flexible connector suitable for easy direct connection to duct work.

Chemco fan casing is extremely rigid with adequate thickness, properly stiffened to ensure it is free of vibration or drumming during operation. The casing is also constructed in a way that no metal parts are situated in the airflow to eliminate the risk of corrosion.

Casing can be any thermoplastic material blended with composites to overcoming high temperature, flame retardant resistant or Electrostatic Discharge protection to suit customer's requirements.

The inlet and outlet are of standard diameter sizes, which can be easily connected together with flexible connector during installation.

All casings can be fitted with drain outlets at the lowest point of the scrolls. This is to facilitate the drainage of condensation build-up or rainwater when installed in the open.

High Efficiency Backward Curve Impellers

Chemco fan impellers are of Single inlet Single width (SISW) type. Impellers are of precision plastic injection moulded design with cast-in metal hub (Models CHEM xxx-315-317 to xxx-560-570). Larger fan impeller are of mechanically welded construction (Models CHEM xxx-630-631 to xxx-1800-1800) to highest quality standard with excellent aerodynamic properties.

Impeller is usually of PP however, depending on the type of applications. Impeller can be made of PA, PC, PVC or PVDF. Impeller of thermoplastic material can be blended with composites to overcoming high temperature, flame retardant resistant, ultraviolet or Electrostatic Discharge protection to suit customer's requirements. Each impeller is statically and dynamically balanced in two planes in accordance with ISO 21940-11:2016(E) / VDI 2060 Q2.5 / AMCA 204. The hubs are designed for use with taper-bushes and are made of high-grade cast plates to guarantee high reliability at the high peripheral speeds.

Fan Base and Support

The fan supporting steel stands and fan bases are manufactured from heavy gauge mild steel and are hot dipped galvanised to provide maximum protection in the most adverse condition. Other material such as stainless steel of various grade and special surface treatment can be done on request. Fans can be rotated to suit different discharge directions.

Drive Shaft and Bearing

All precision solid shafts complying to DIN EN 17210:2021 / EN 10084:2008 are trued and have a smooth finish. Both shaft ends have as standard feature diameters complying with DIN EN 50347:2003 / BS EN 50347-2001 and grooved to ISO 6885:2016(E). The shafts are chemical resistant coated with protective cover to prevent corrosion. Upon requested, stainless steel shaft can also be provided.

CHEM xxx-315-317 to xxx-560-570 belt driven fans come with flange mounted aluminium cast bearing housings type. The drive shaft is fitted with two standards antifriction grooved balls bearing unit with acid proof seal. This design ensures trouble-free service, silent operation and minimum vibration.

For CHEM xxx-630-631 to xxx-710-711 and above, the drive shafts are mounted on fan pedestal with cast iron housing of pillar/plummer block units. These bearings are of self aligning heavy-duty ball or spherical roller type.

Drives

Standard pulley drive with taper bush type, accurately balanced and conform to ISO 4183:1995 standards. All Vee belts are conformed to ISO 4148:2004(E). Belt section is selected with correct ratings and tensioning to ensure prolonged usage.

Motor

Depending on the application, standard electric driven motor of IP44, IP45, IP54 or IP55 can be supplied upon request.

For direct driven fans, motor are usually of B5 flange mounting and for belt driven fans, motor are of B3 foot mounting. All motors are totally enclosed and fan cooled complying with IEC 60034-1. The motors are single/three phase, 50/60 Hz suitable for 240/415 or 220/380 volts standards. All other voltage can be supplied upon request.

Tropicalisation

Motor windings are coated with resin varnishes, which make the motor suitable for tropical atmospheres. Additional treatment can be carried out where motors are required to operate in severe tropical environments.

Flameproof

All fans mounted with flameproof motors are suitable in the following areas:

1) (EN 60079-0) certified for Groups IIa and IIb

2) (EN 60079-7) designated EXE and are suitable for use in Zone 1 areas for group IIa and IIb.

3) (EN 60079-15) designated type EXN and suitable for use in Zone 2 areas.

Flameproof areas zone 1 and 2, when installed in non-explosion hazardous area for temperature categories T1-T3, but only under the follow conditions:

a) the maximum allowed revolutions must be reduced by 20%

b) the allowed drive power P_w should be reduced by 30%

c) only fans with horizontal shafts are to be used

d) fans must be equipped with guards to prevent foreign particulars falling in or being sucked in.

Inspection View Port

For servicing and inspection purposes. Inspection view port can be included only upon request. This view port should comply in general with safety and accident prevention regulations.

Accessories

- Anti-vibration spring mounting
- Motor, motor guard, slide rails, belt guard, belt drive
- Fan and motor support base frame
- Splinter protection cover.
- Condense water drain socket and plug
- Bearing, bearing and shaft cover
- Inlet flanges, Inlet sleeve with clamping bands
- Motor and Variable Frequency Inverter

Optional

- Full range of colour matching
- High Temperature
- Electrostatic Discharge - Anti-static, Static dissipative or Conductive
- Flame Retardant
- Ultra Violet

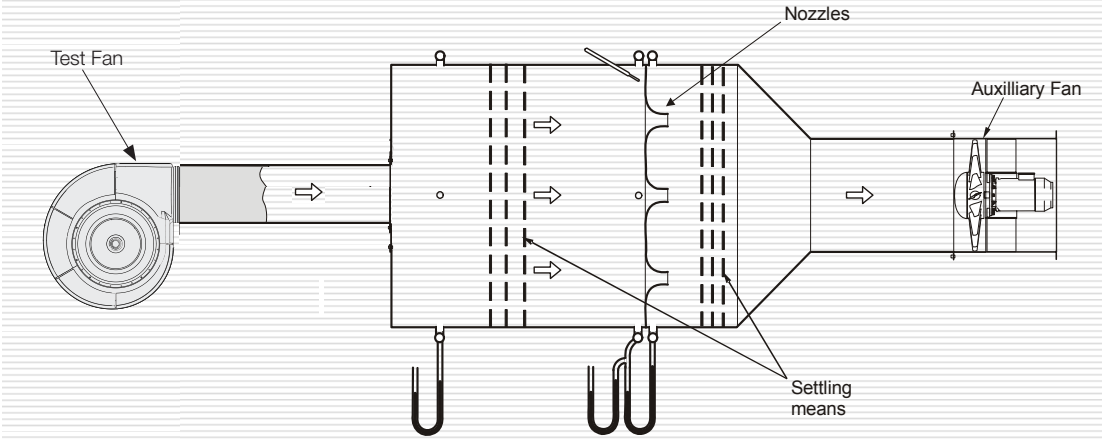
Thermal and Chemical resistant

The temperature of the air and gases must not exceed that specified for the materials:

Material	max. Temp. [°C]
PVC	60
PP	80
GFK	100
PVDF	120

Please contact our local sales engineers for detailed list of Chemical Application Information.

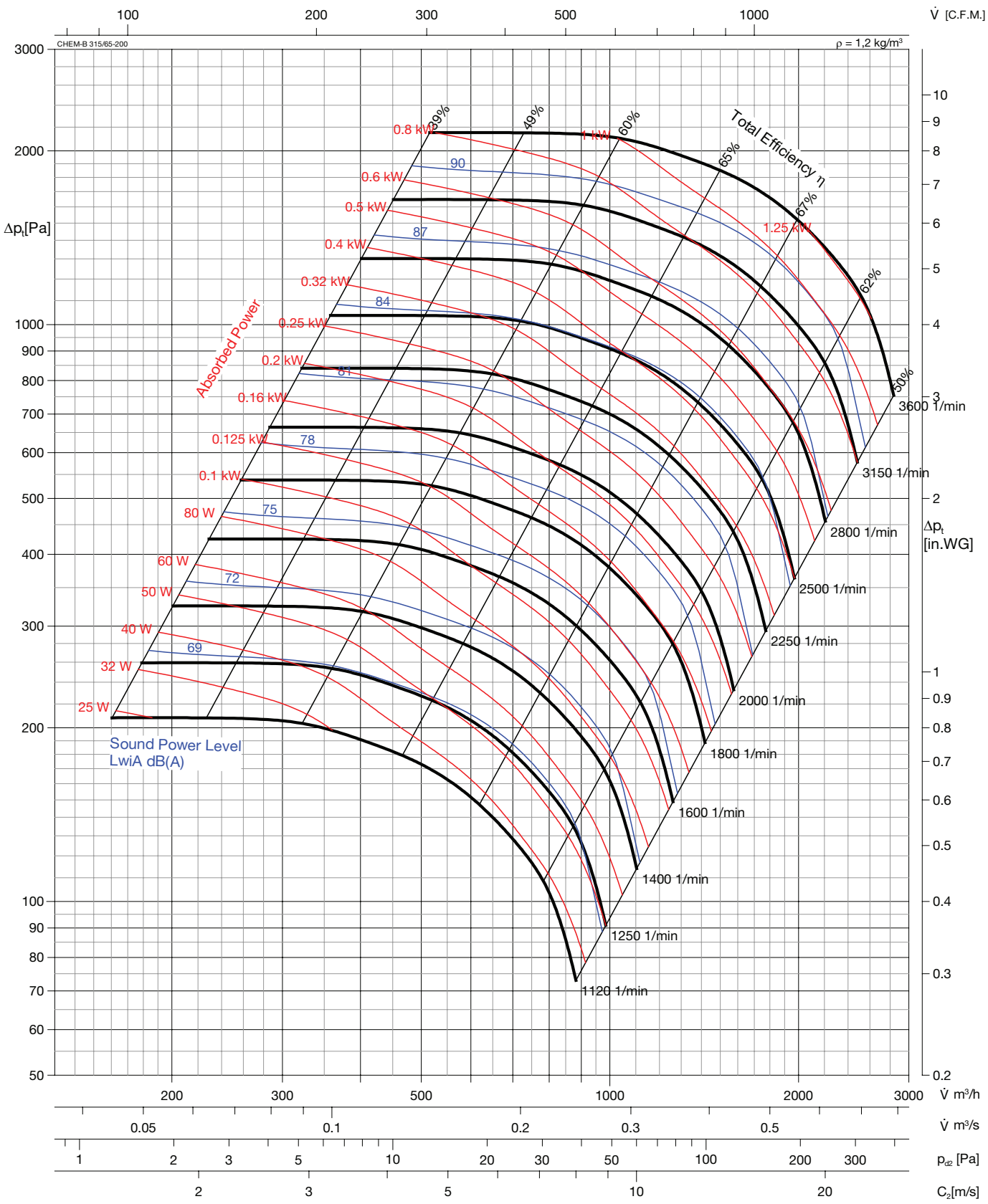
The performance curves provided in this catalogue were measured according to AMCA 210 (ISO 5801) in a test chamber.
The sketch below shows the principle set up of the test chamber.



AMCA 210 Figure 12
ISO 5801 Figure 73b

Fan Curve

CHEM 200-315X-317



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	327	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3600	1/min

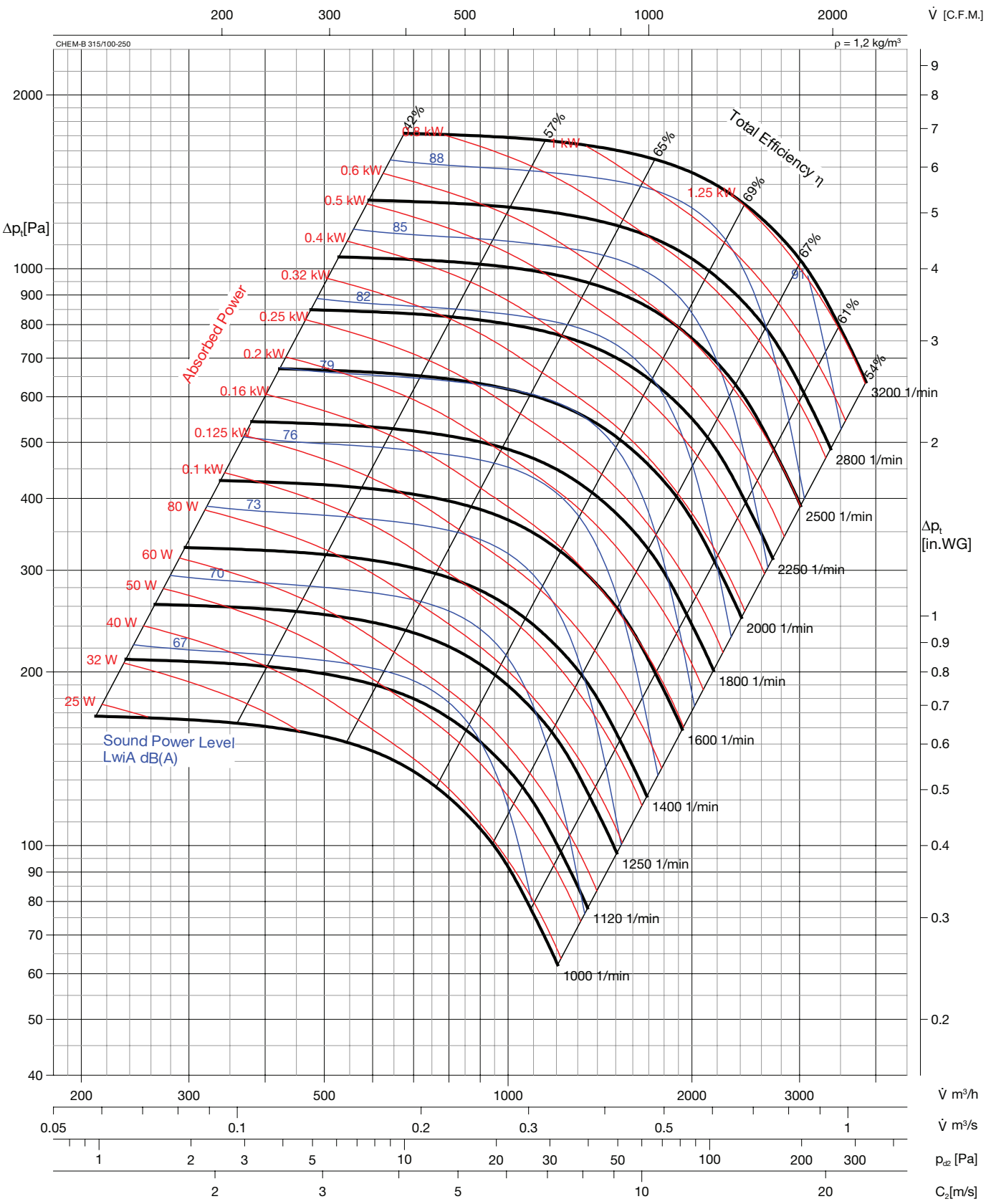
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-6	-3	-10	-11	-14	-18	-21	-20

Fan Curve

CHEM 250-315P-317



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Wheel diameter	D =	327	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3200	1/min

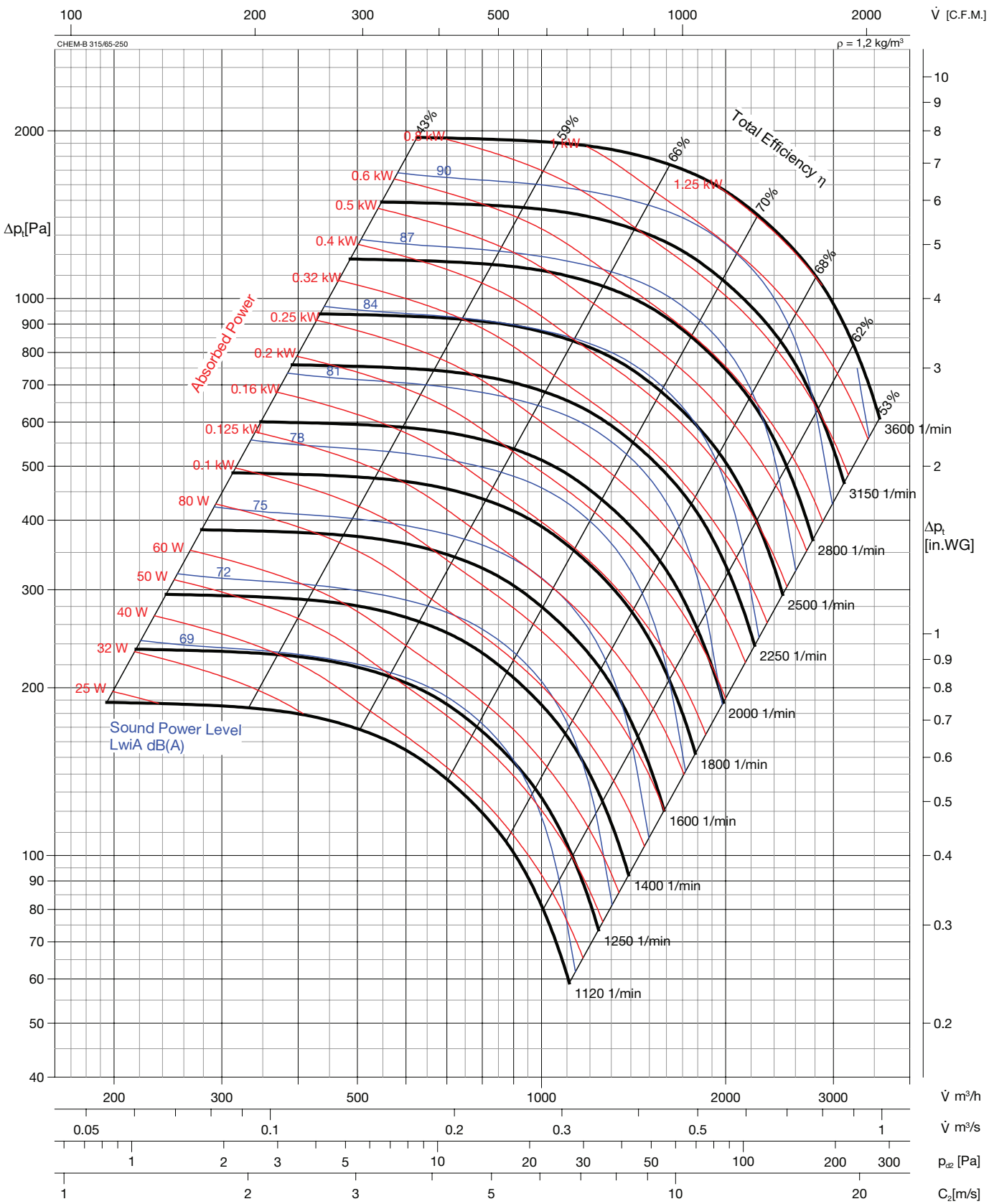
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-6	-3	-10	-11	-14	-18	-21	-20

Fan Curve

CHEM 250-315X-317



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	327	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3600	1/min

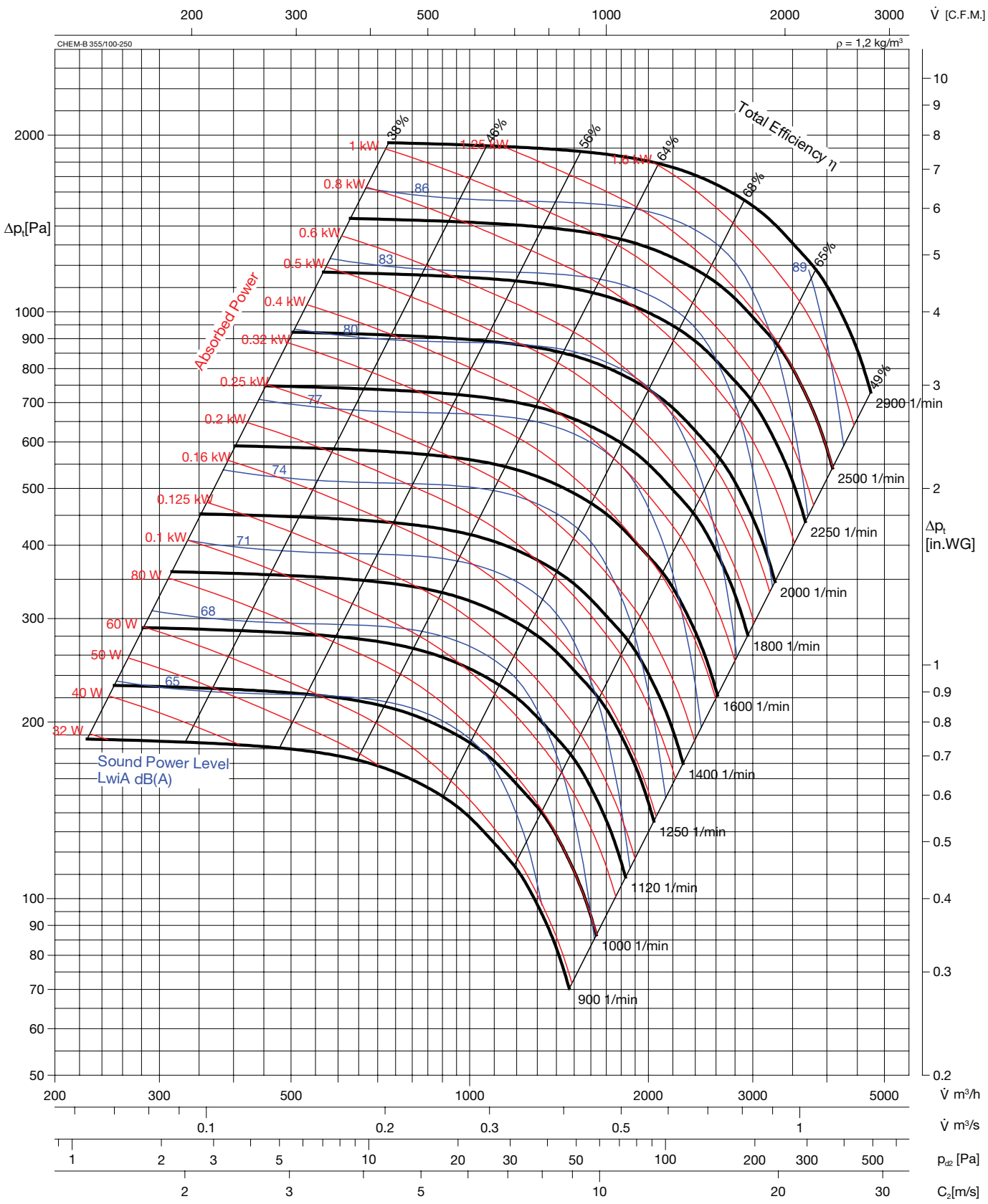
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-6	-3	-10	-11	-14	-18	-21	-20

Fan Curve

CHEM 250-355P-359



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Wheel diameter	D =	369	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2900	1/min

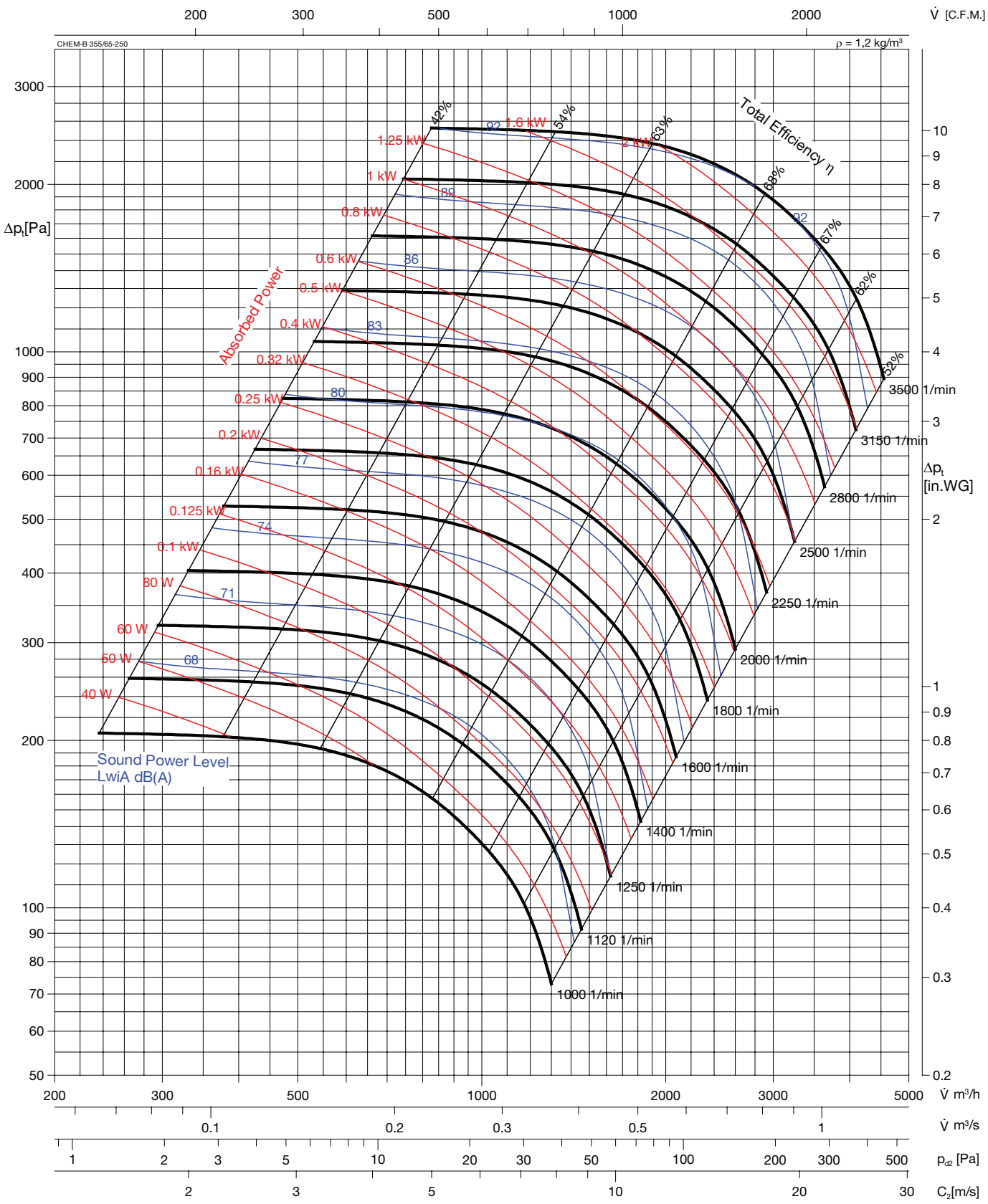
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 250-355X-359



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Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	369	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3500	1/min

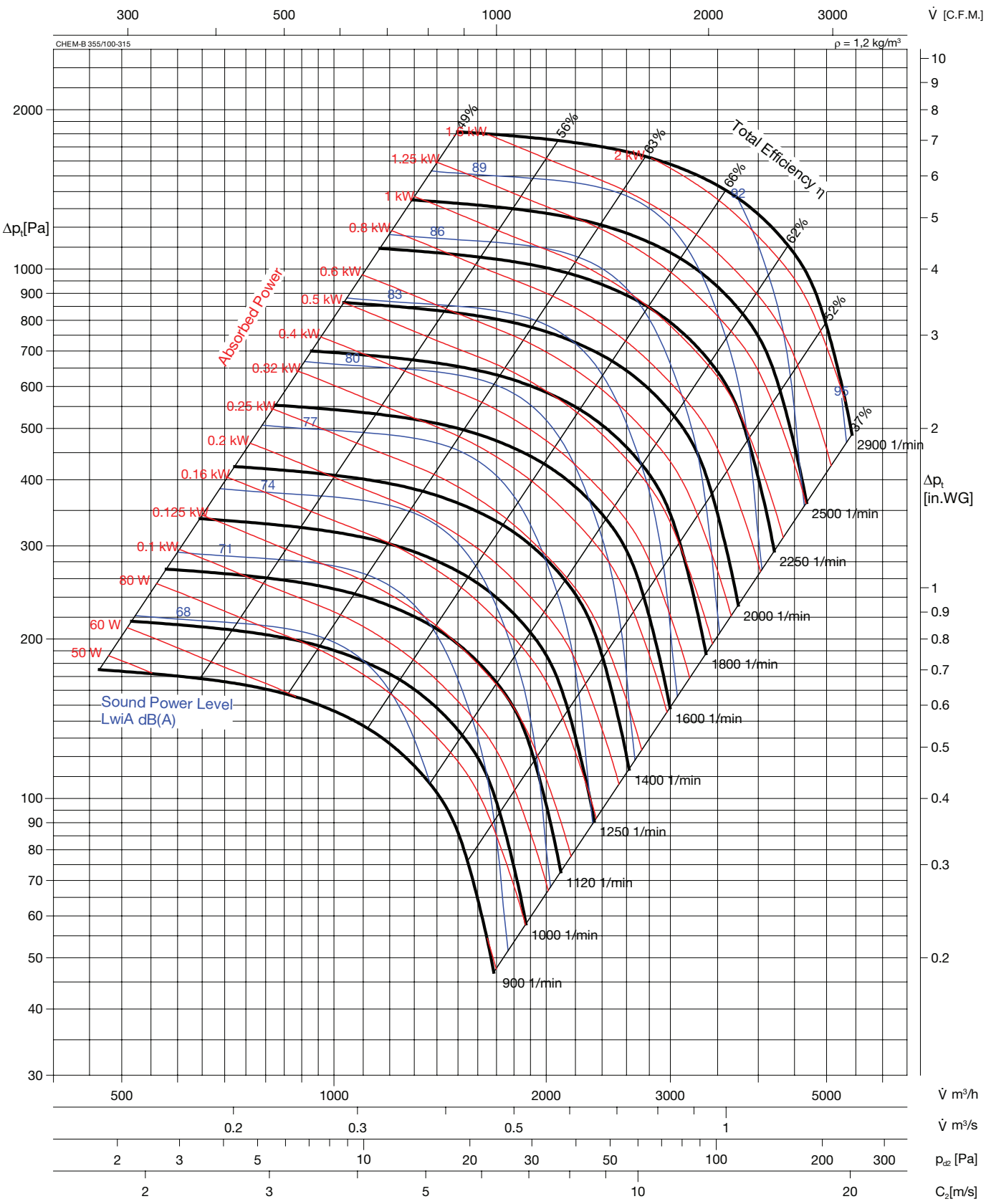
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-355P-359



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Wheel diameter	D =	369	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2900	1/min

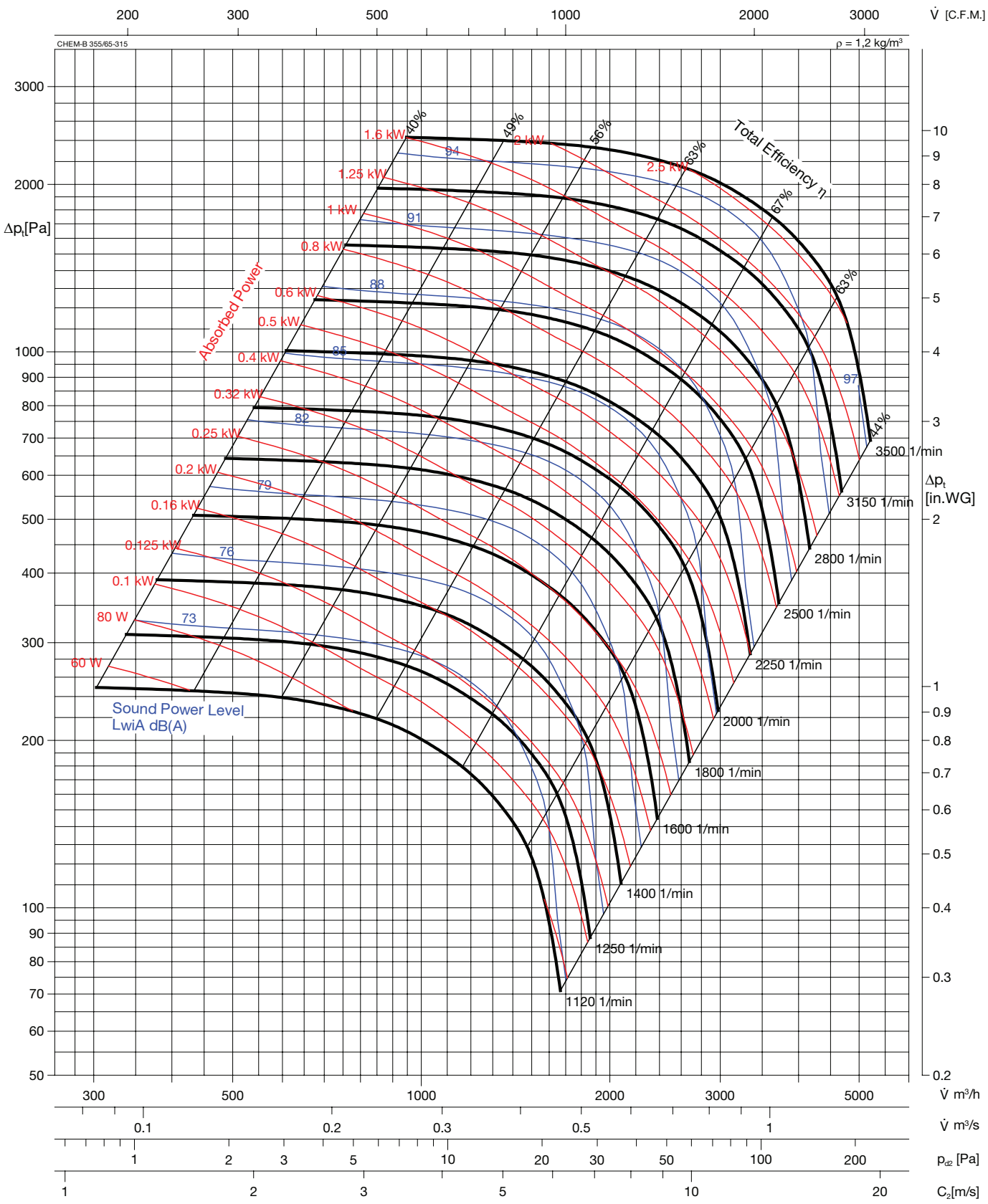
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-355X-359



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Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	369	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3500	1/min

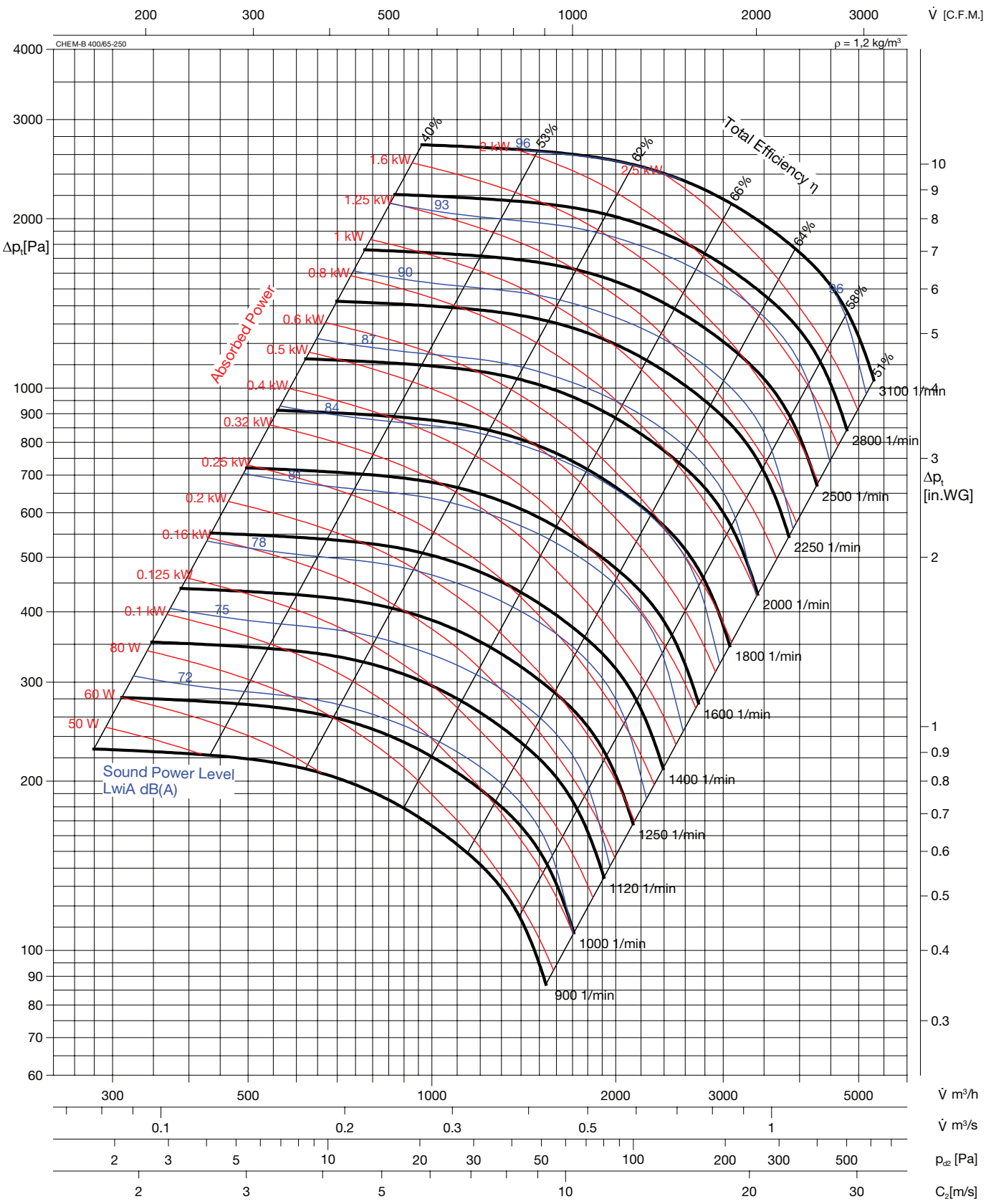
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 250-400X-403



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Wheel diameter	D =	417	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3100	1/min

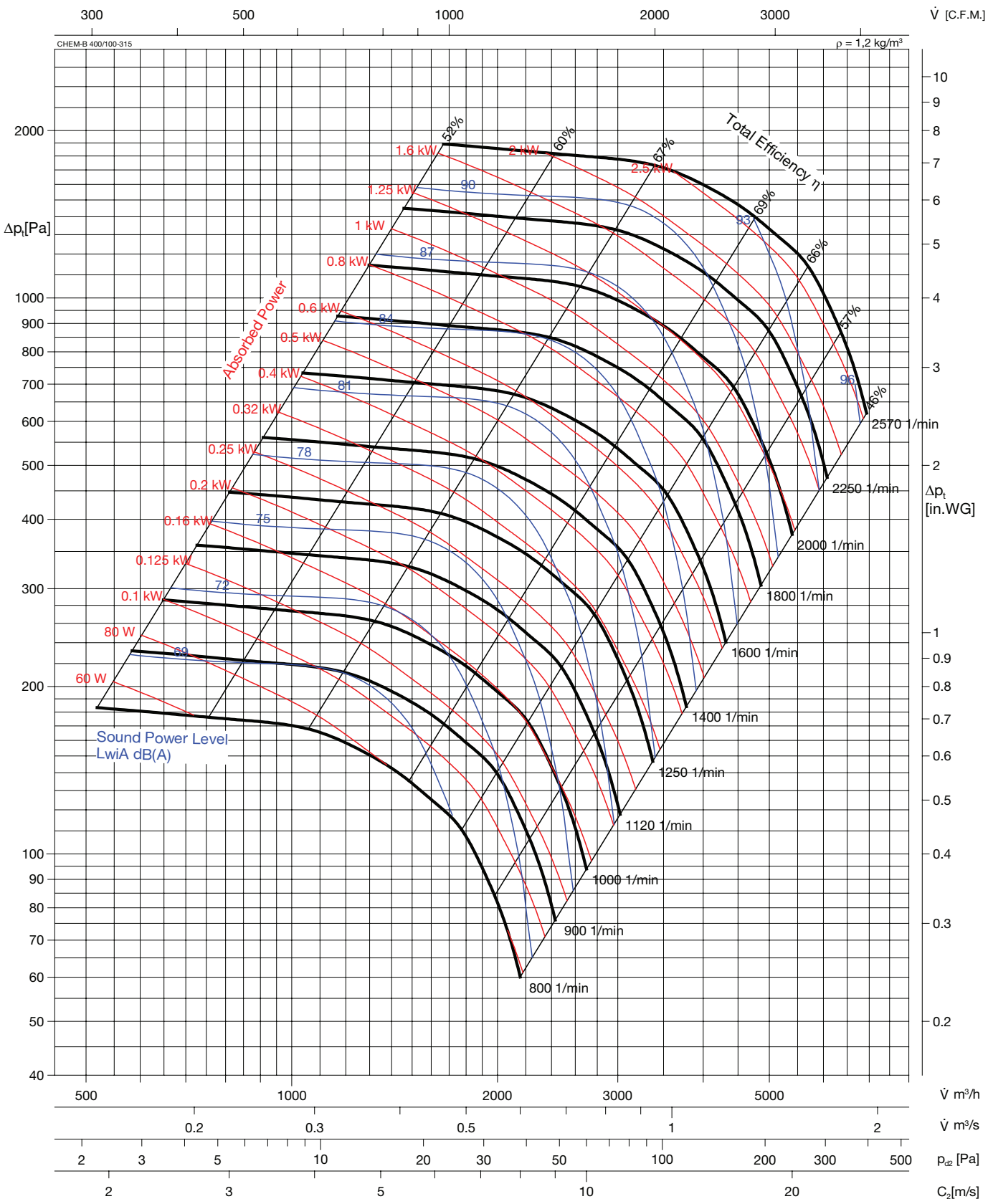
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-400P-403



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Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	417	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2570	1/min

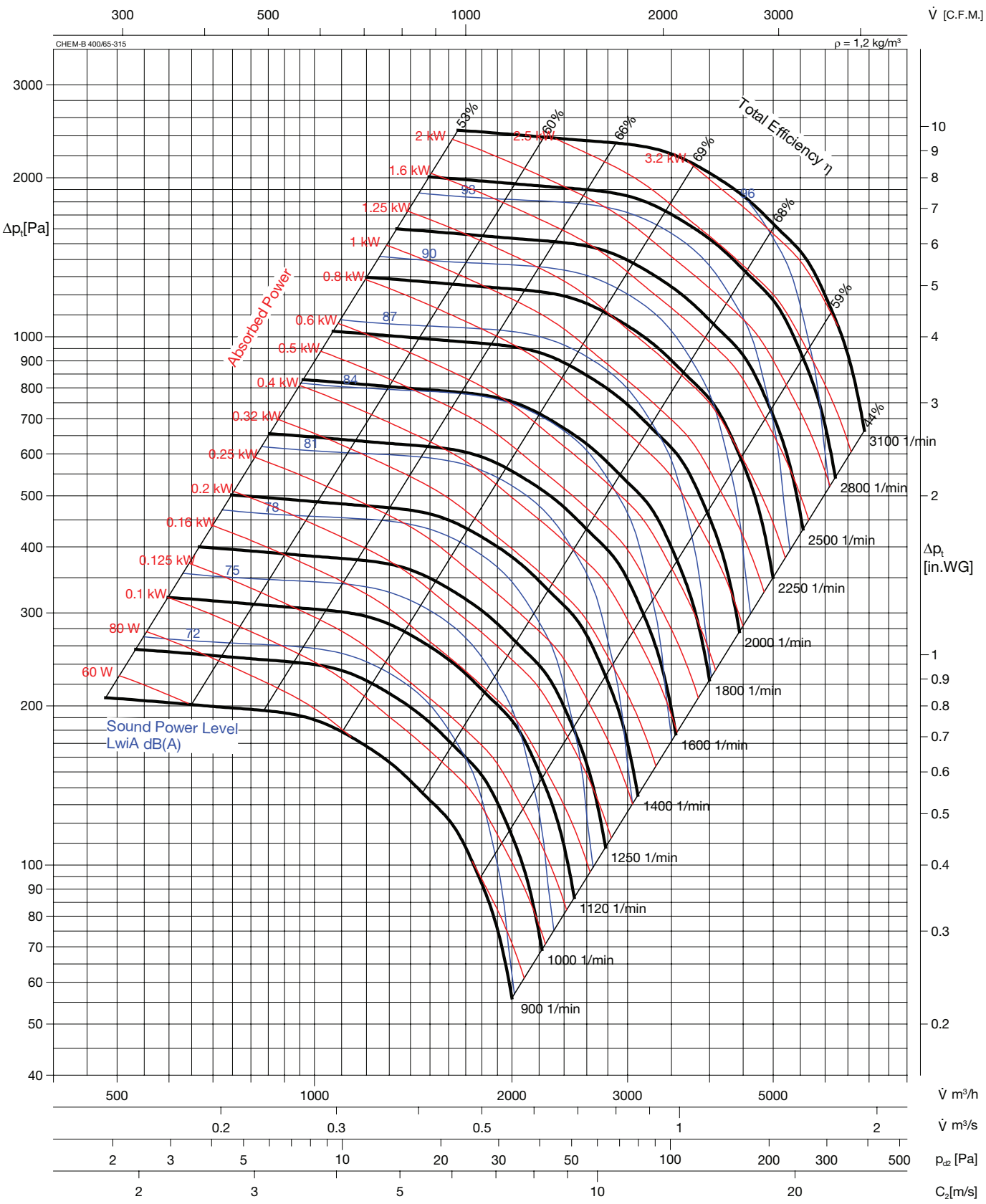
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2500	-15	-3	-6	-9	-12	-15	-19	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-400X-403



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Wheel diameter	D =	417	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	3100	1/min

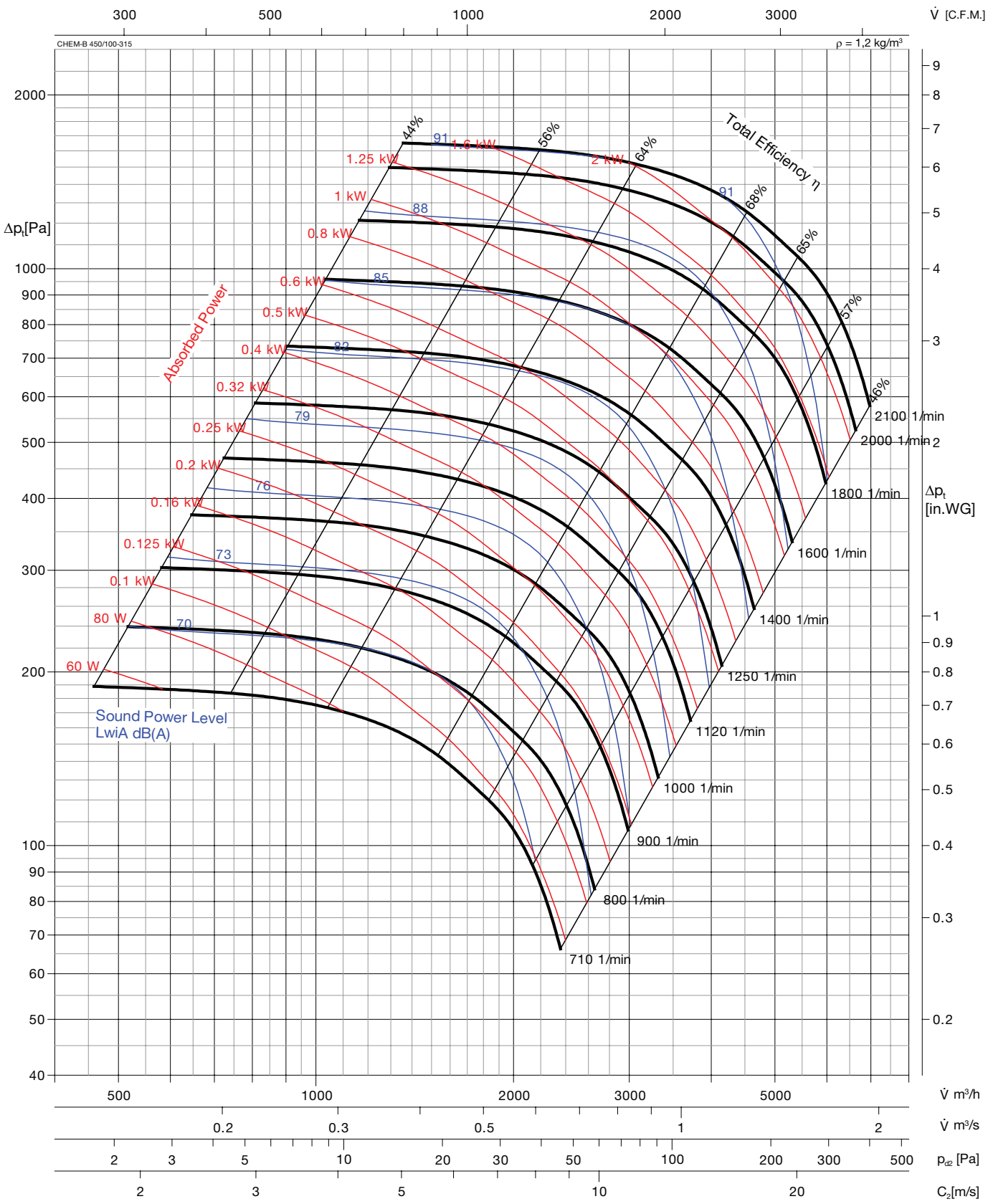
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2900	-15	-6	-3	-9	-11	-14	-18	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-450P-453



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	468	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2100	1/min

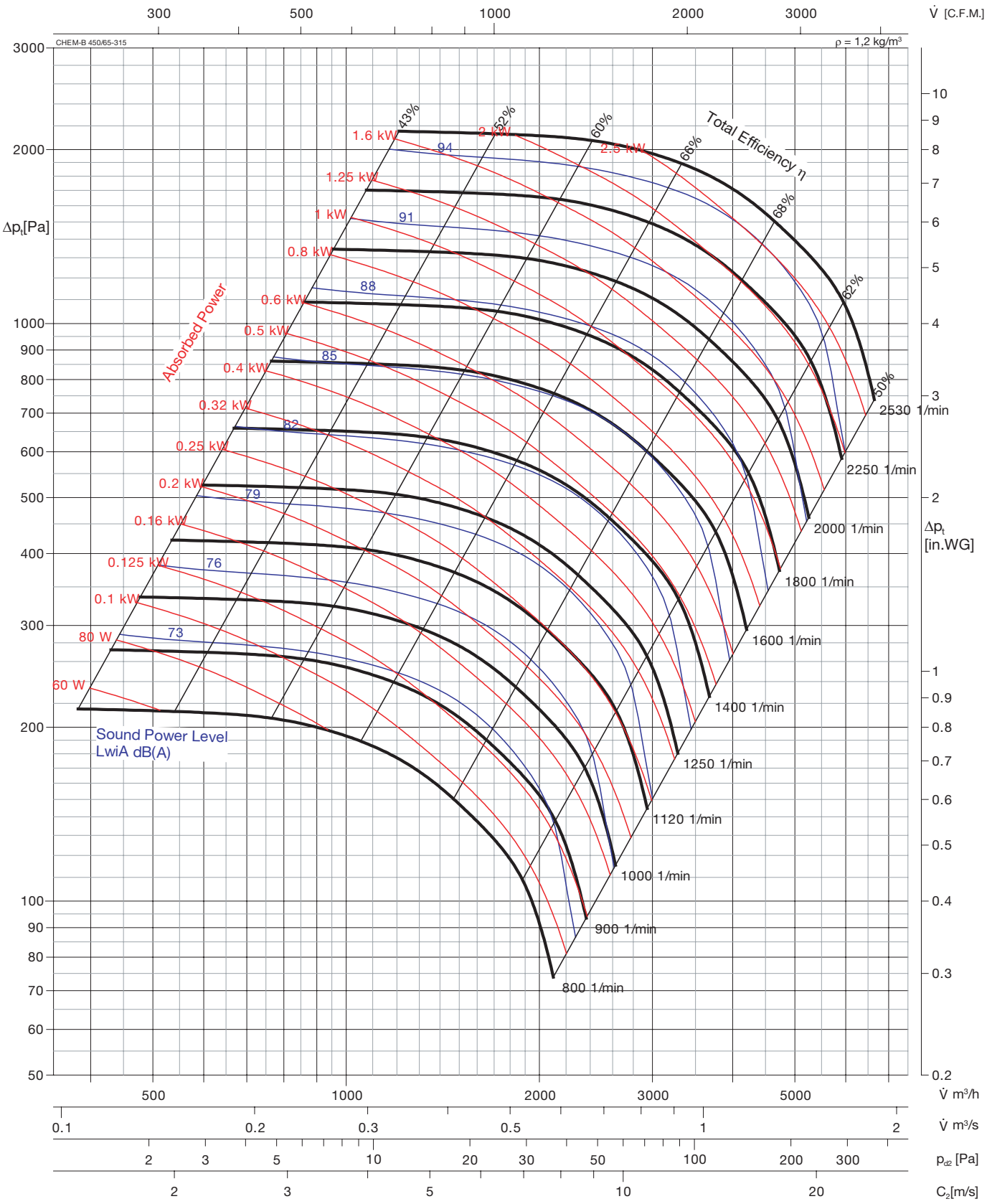
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2100	-16	-2	-9	-10	-14	-16	-21	-22
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-450X-453



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing. Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	468	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2530	1/min

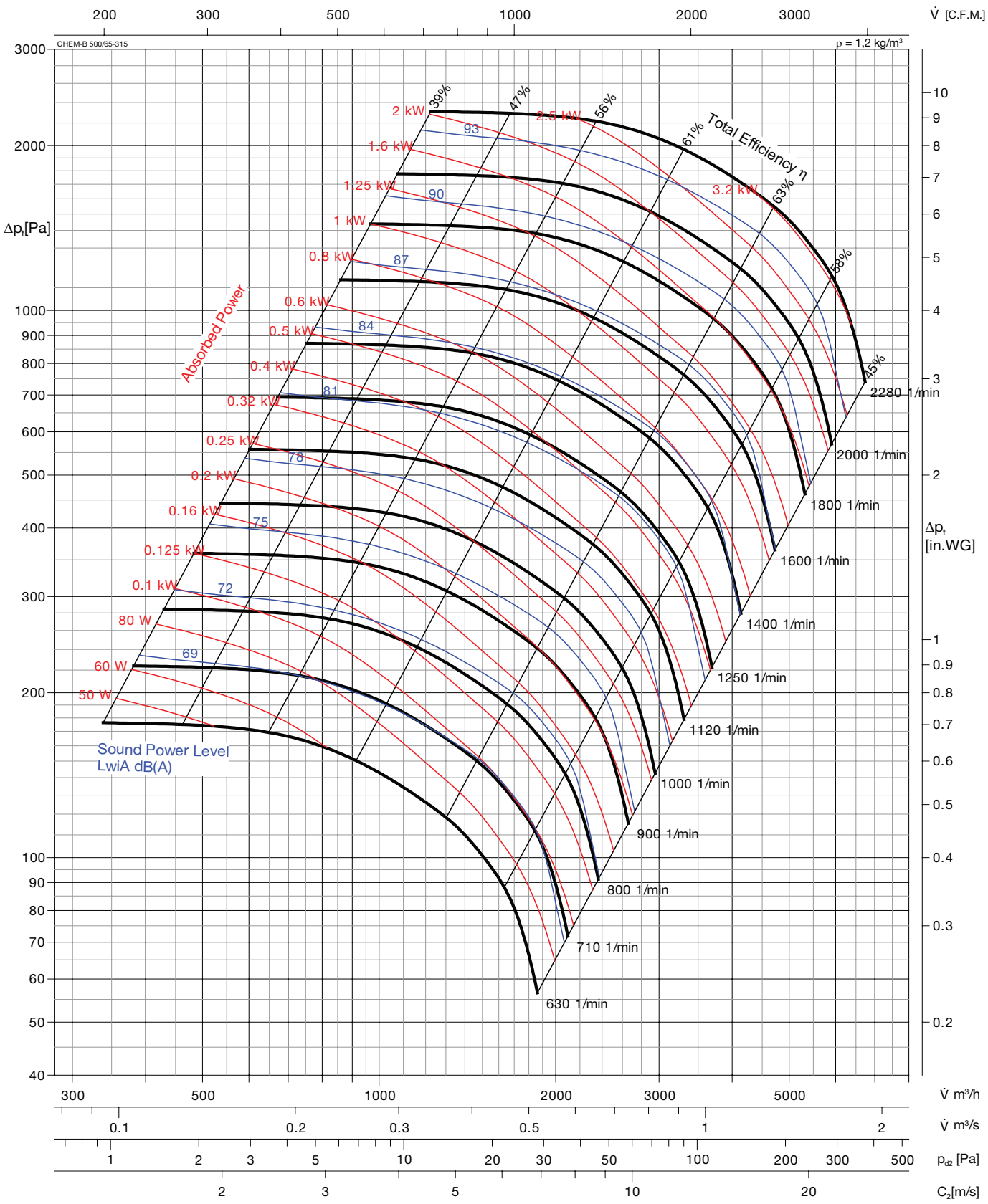
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2500	-15	-3	-6	-9	-12	-15	-19	-21
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 315-500X-504



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	515	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2280	1/min

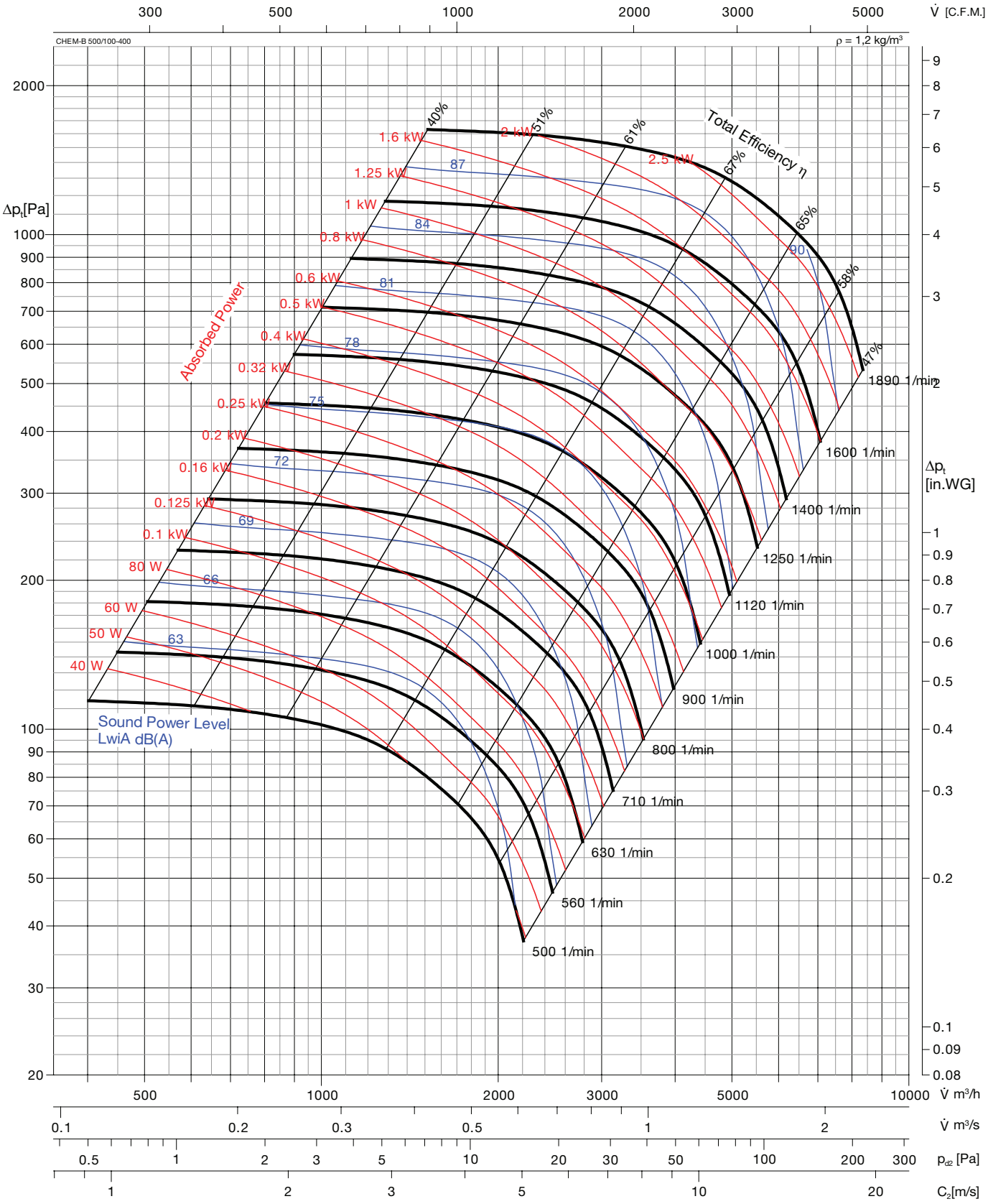
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2200	-16	-2	-8	-11	-13	-16	-21	-22
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 400-500P-504



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing. Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	515	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	1890	1/min

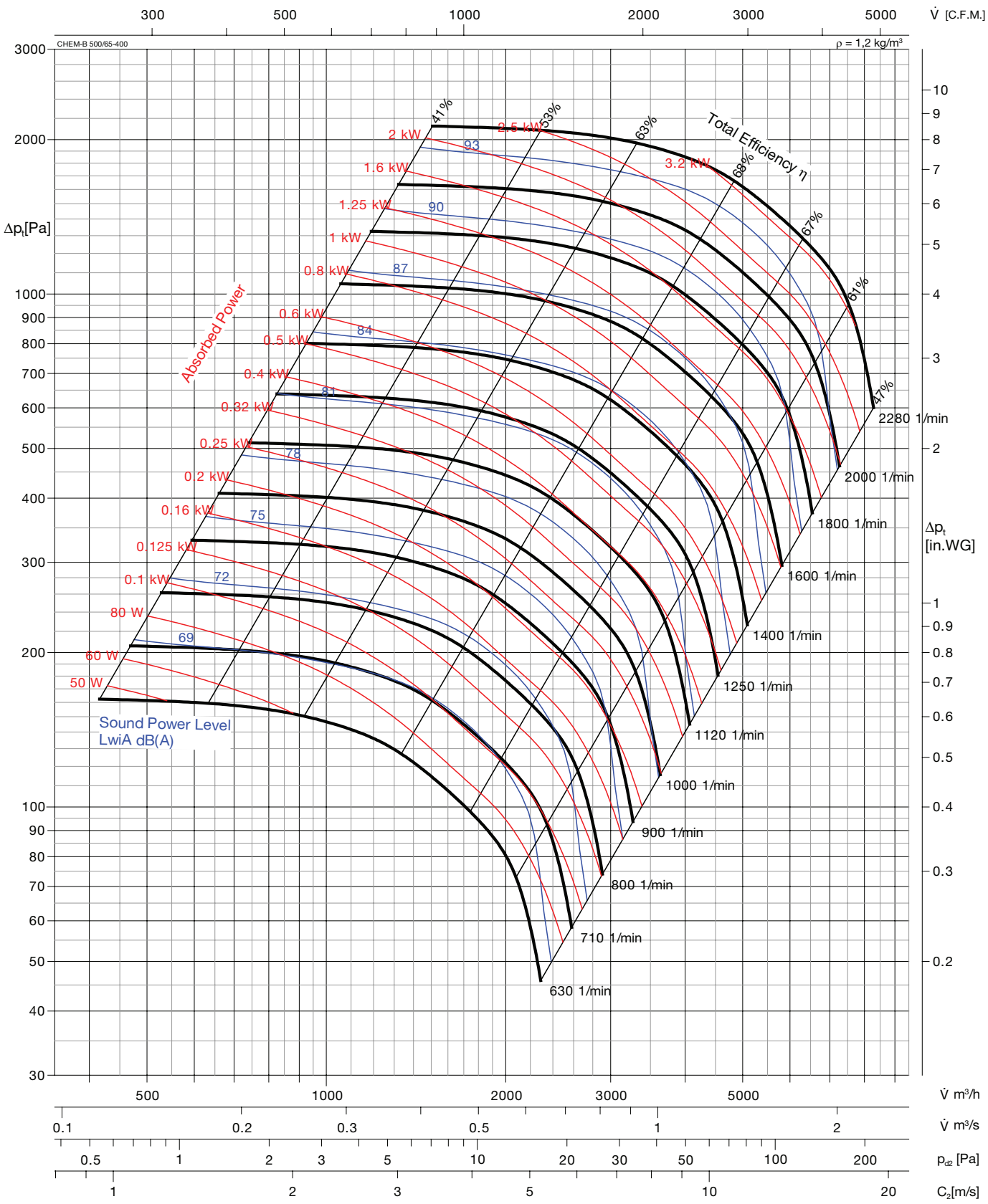
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-7	-3	-9	-11	-14	-18	-21	-20
1000	-1	-10	-11	-14	-16	-21	-21	-22

Fan Curve

CHEM 400-500X-504



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	515	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2280	1/min

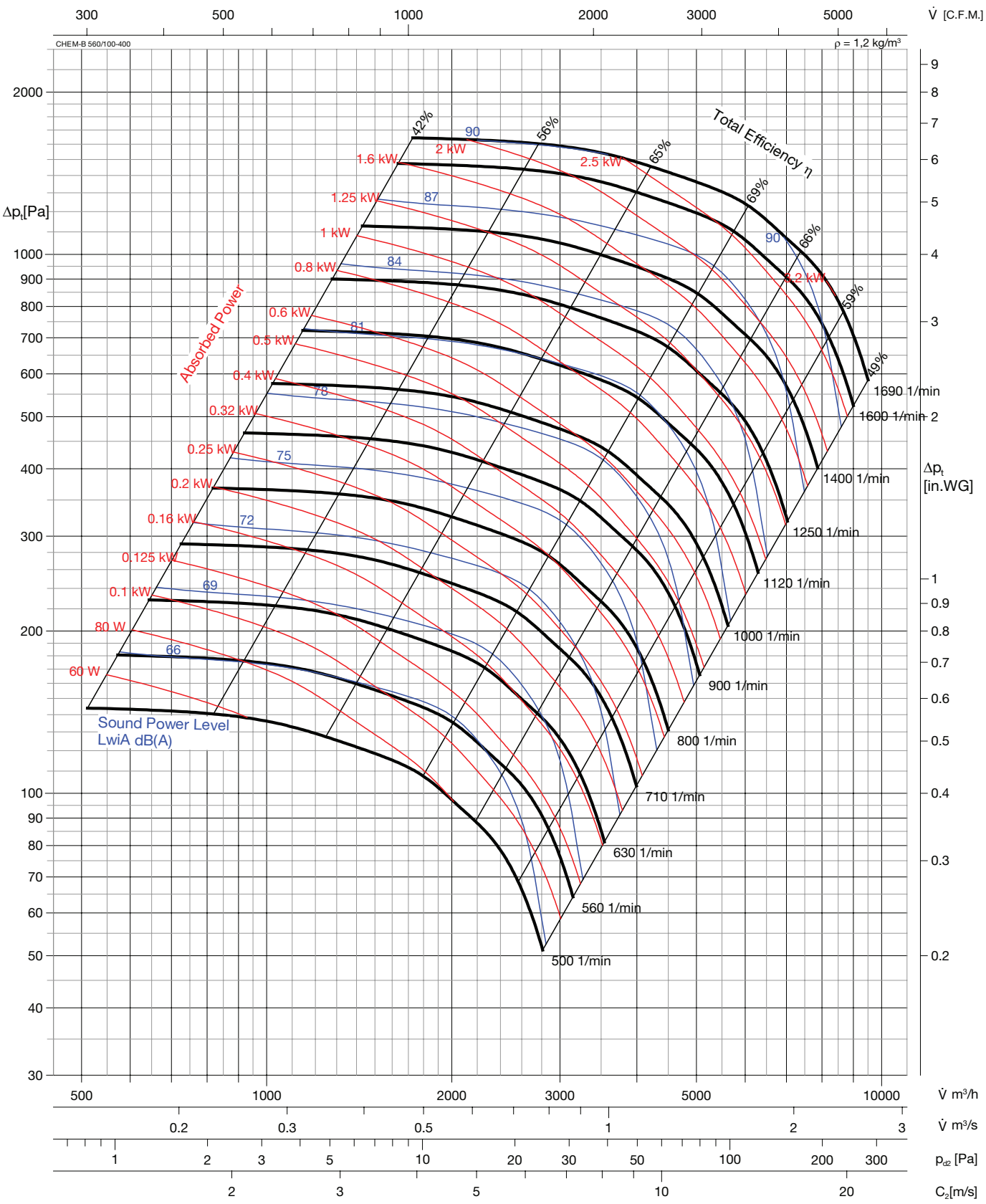
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
2200	-16	-2	-8	-11	-13	-16	-21	-22
1450	-7	-3	-9	-11	-14	-18	-21	-20

Fan Curve

CHEM 400-560P-570



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing. Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	575	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	1690	1/min

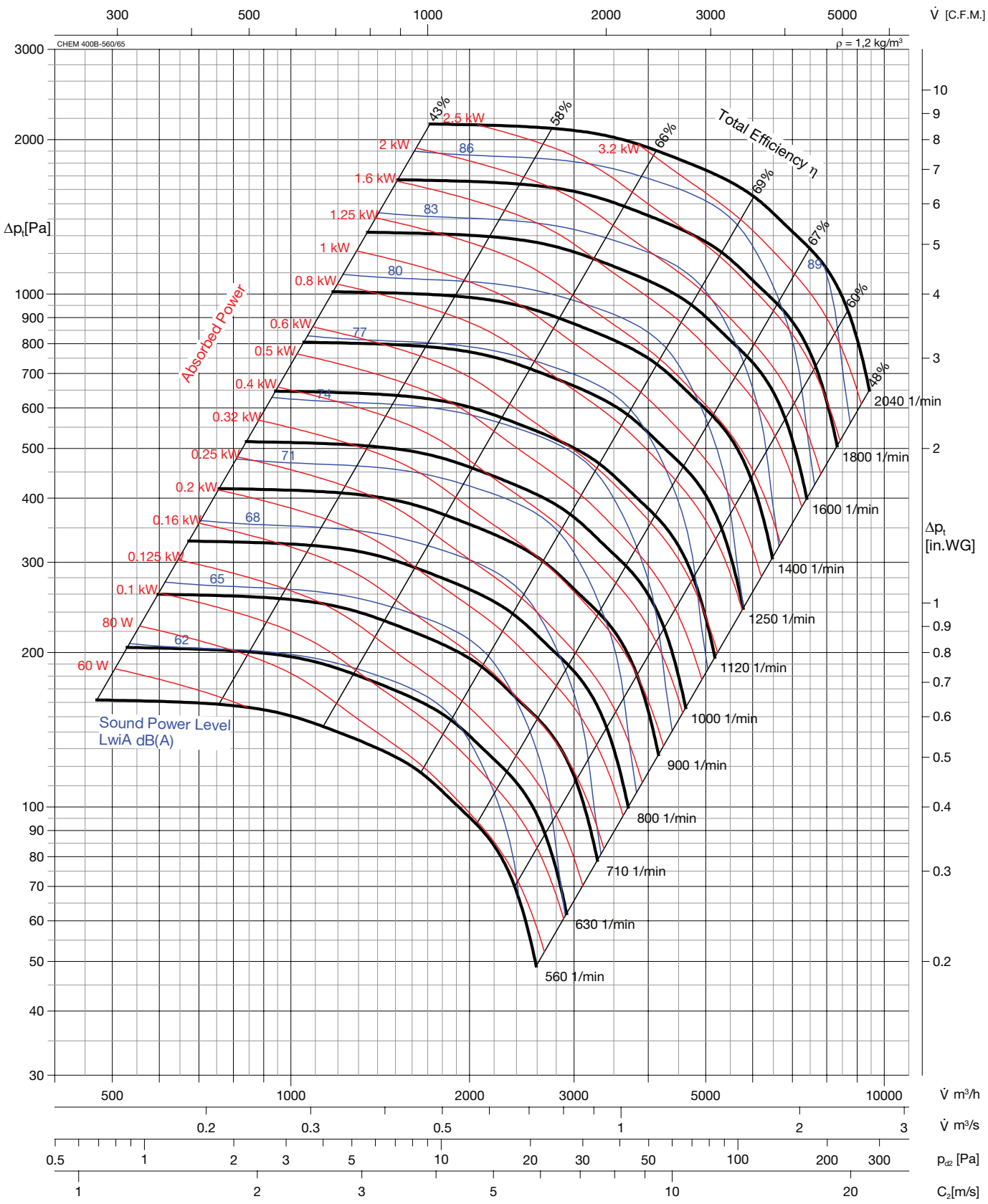
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-2	-8	-7	-18	-19	-22	-27	-32
1000	-4	-4	-10	-16	-17	-22	-27	-32

Fan Curve

CHEM 400-560X-570



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	575	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	2040	1/min

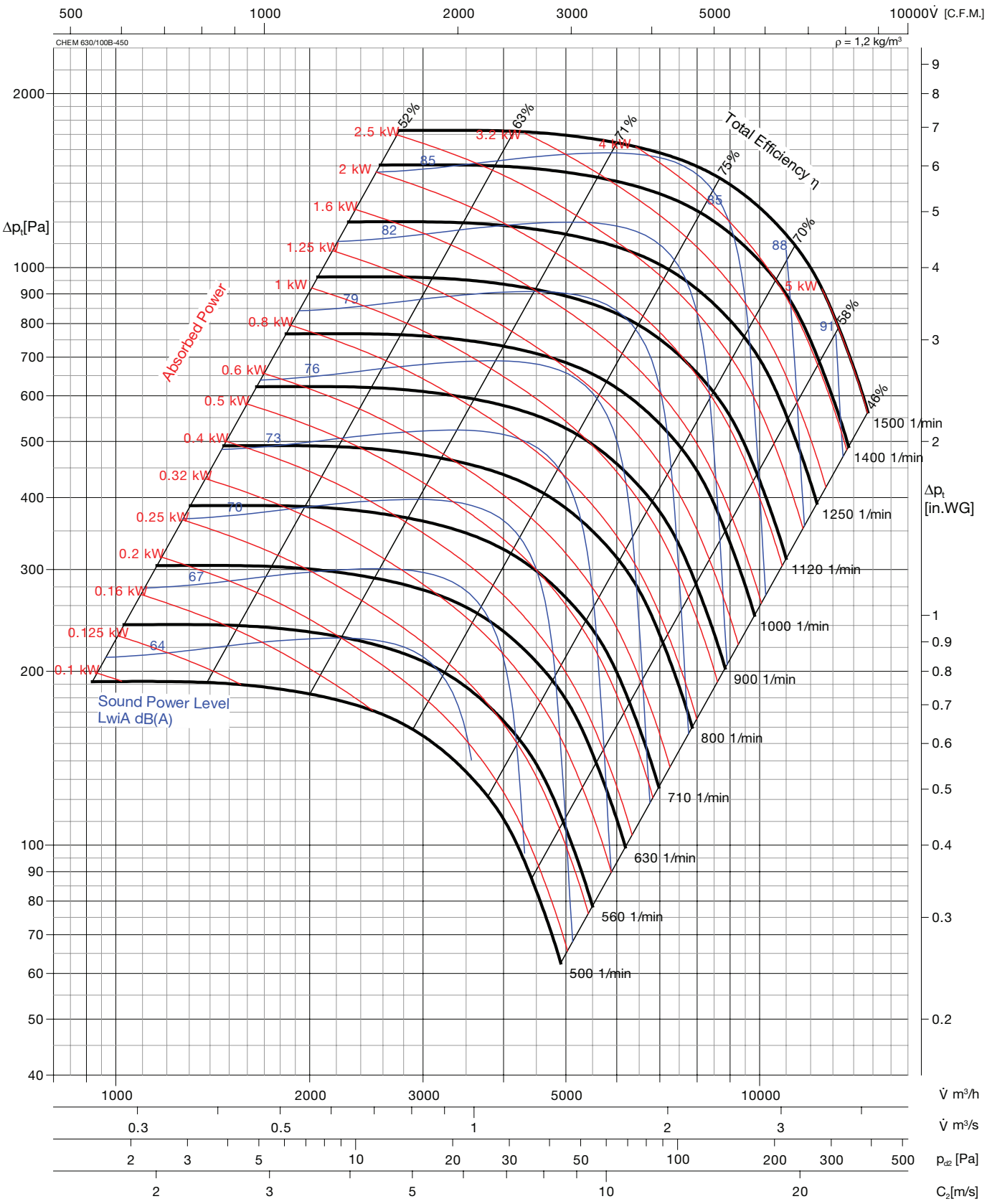
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-2	-8	-7	-18	-19	-22	-27	-32
1000	-4	-4	-10	-16	-17	-22	-27	-32

Fan Curve

CHEM 450-630P-631



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing. Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	642	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	1500	1/min

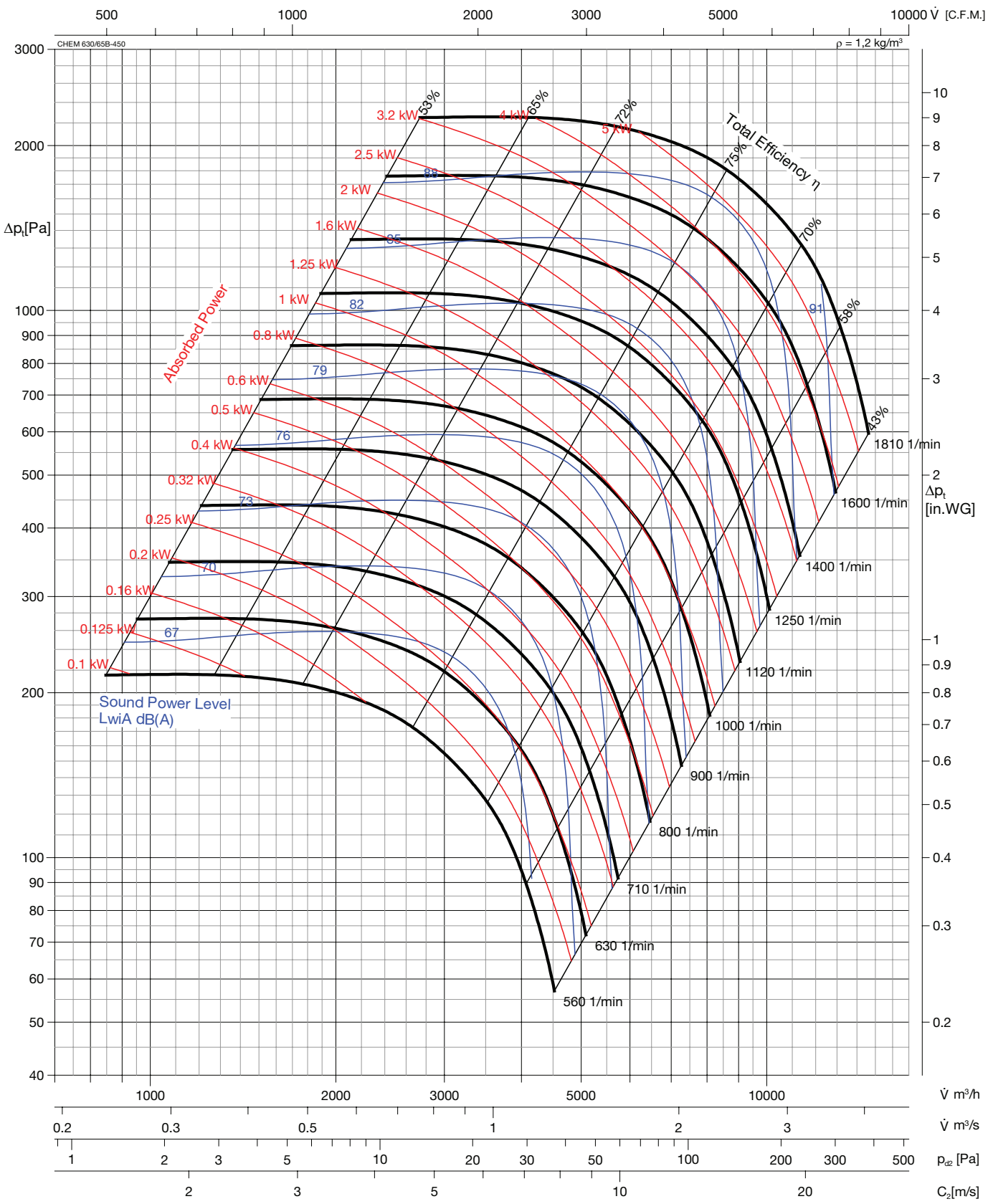
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-2	-8	-7	-18	-19	-22	-27	-32
1000	-4	-4	-10	-16	-17	-22	-27	-32

Fan Curve

CHEM 450-630X-631



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	642	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	1810	1/min

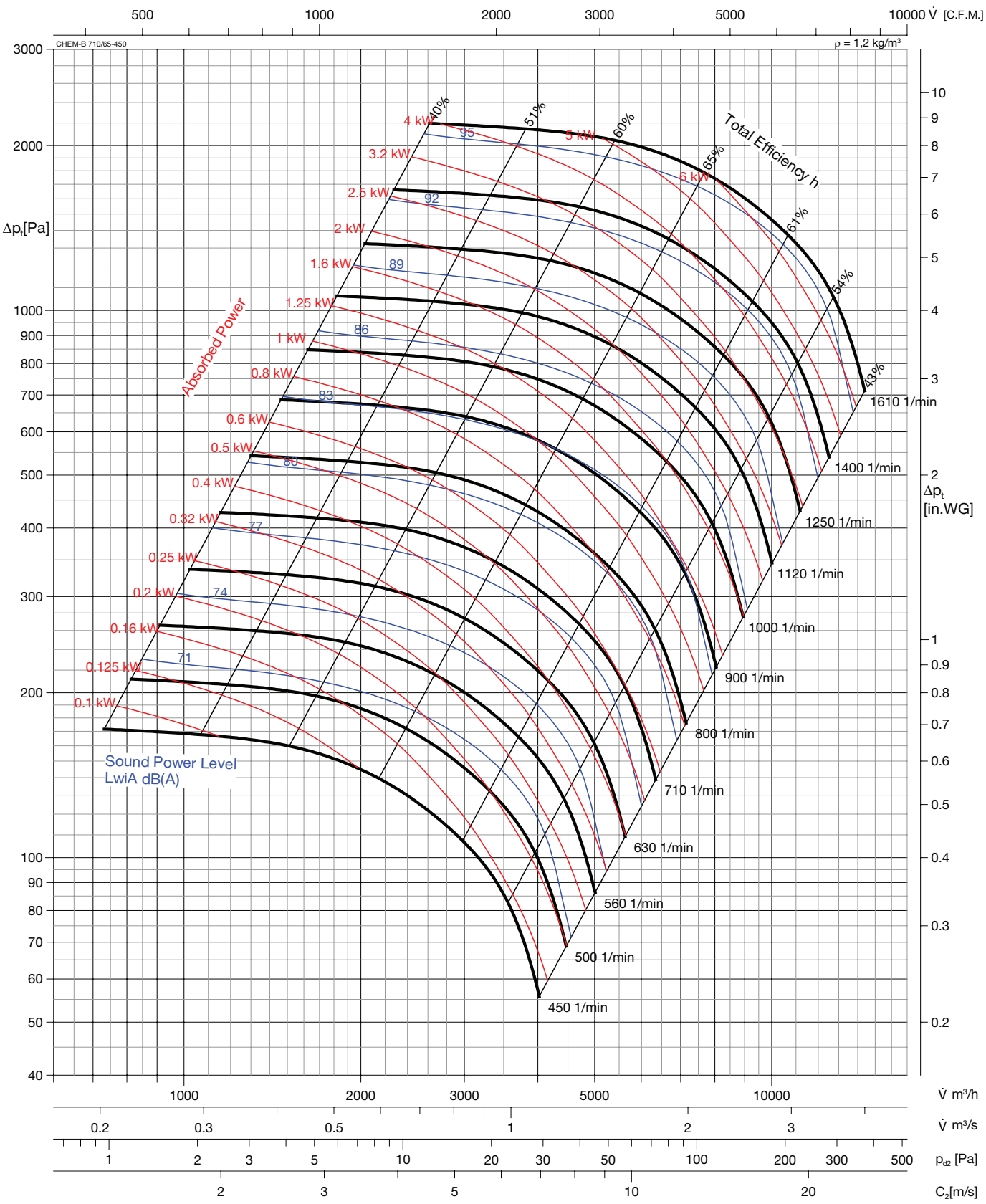
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-2	-8	-7	-18	-19	-22	-27	-32
1000	-4	-4	-10	-16	-17	-22	-27	-32

Fan Curve

CHEM 450-710X-722



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing. Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

Wheel diameter	D =	724	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	1610	1/min

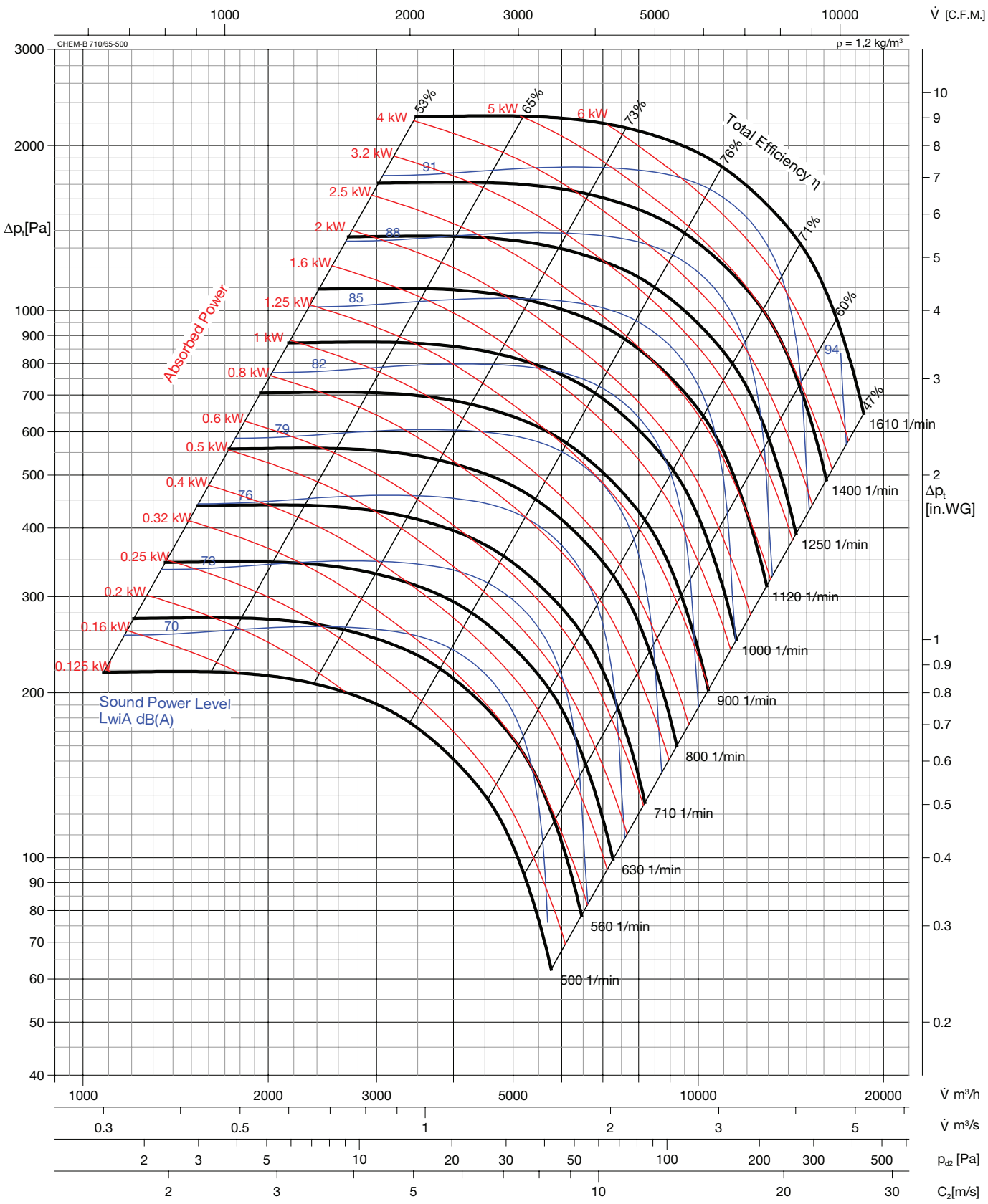
The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-2	-8	-7	-18	-19	-22	-27	-32
1000	-4	-4	-10	-16	-17	-22	-27	-32

Fan Curve

CHEM 500-710X-722



The test data were obtained in a laboratory accredited by AMCA for AMCA Standard 210 and 300 testing.

Fan tested according to AMCA standard 210 Fig.12, Test Chamber. Performance obtaibed is for installation type B - Free inlet, Ducted outlet. Power Rating (kW) does not include transmission losses, Performance ratings do not include the effects of appurtenances (accessories).

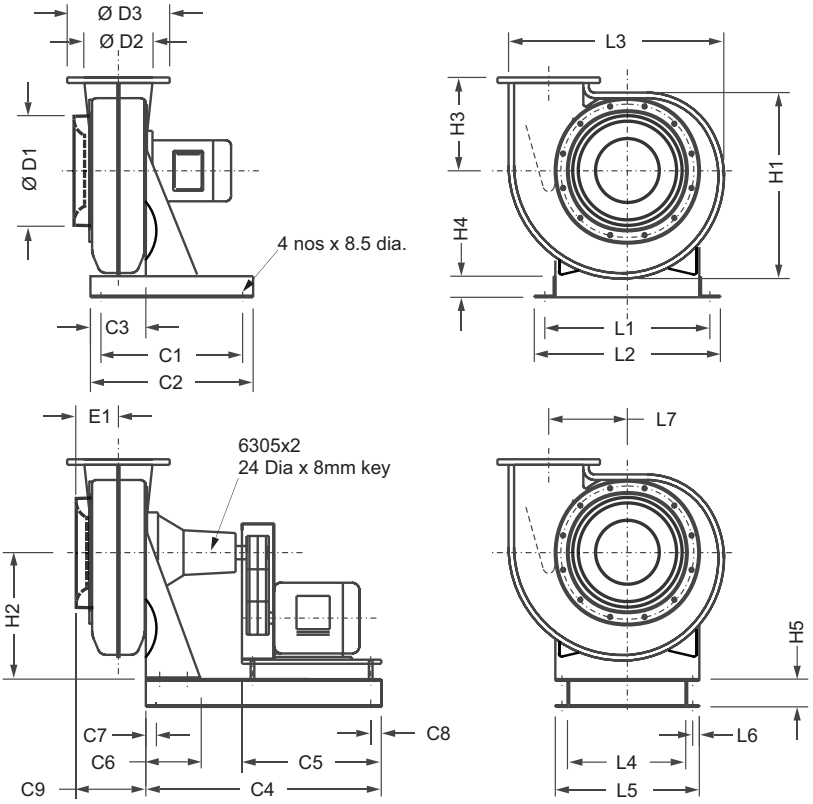
Wheel diameter	D =	724	mm
Number of blades	z =	6	
Impeller weight	G =	-	kg
Speed limit	n_{max} =	1610	1/min

The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet LwiA sound power levels for installation Type B: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Relative frequency spectrum Lwi in ΔdB

n [1/min]	Octave b. midfreq. [Hz]							
rpm	63	125	250	500	1k	2k	4k	8k
1450	-2	-8	-7	-18	-19	-22	-27	-32
1000	-4	-4	-10	-16	-17	-22	-27	-32

CHEM xxx-315-317 to xxx-560-570 PP

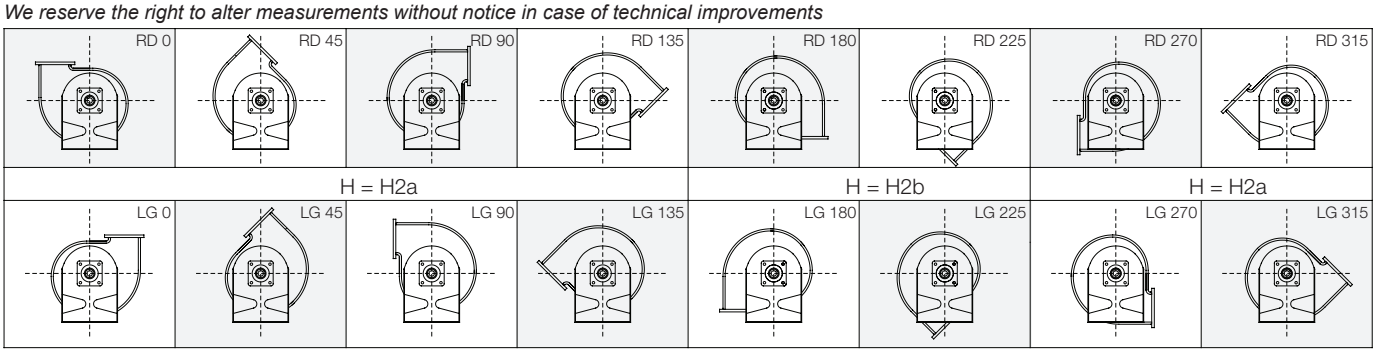


The direction of rotation is as viewed from the drive side

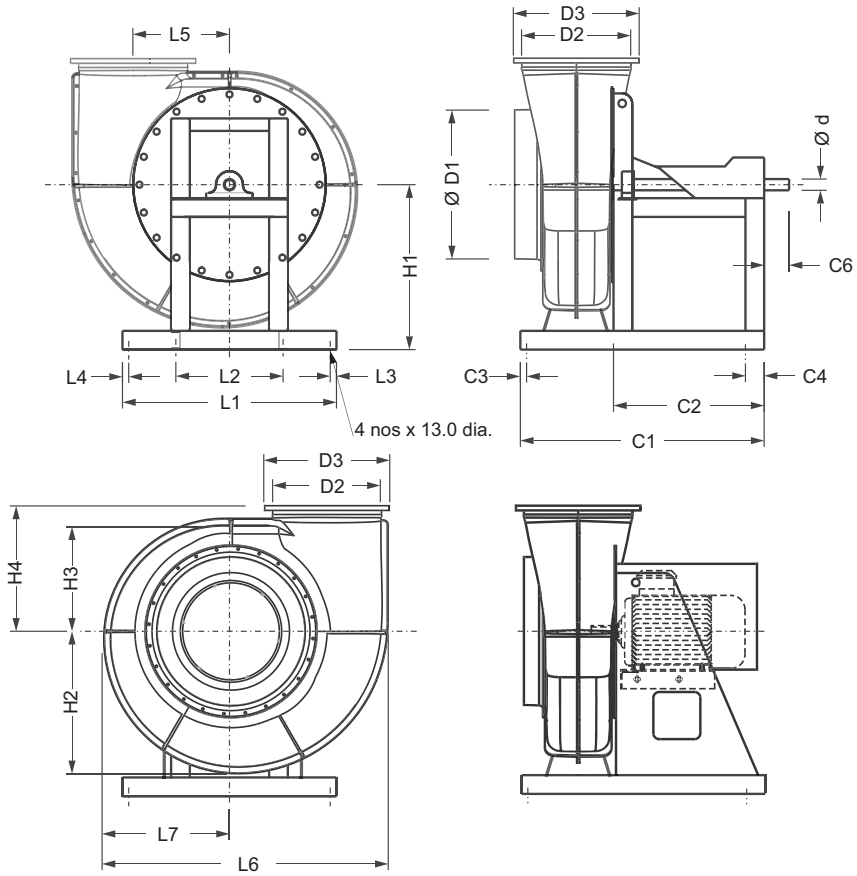
Model	D1	D2	D3	C1	C2	C3	C4	C5	C6	C7	C8	C9	E1	H1
size	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
200-315	315	200	260	312	350	100	550	320	150	25	25	203	127	518
250-315	315	250	310	300	350	100	600	450	150	25	25	215	126	621
315-250	355	250	310	300	350	100	600	450	150	25	25	242	151	621
315-355	355	315	375	350	400	125	650	450	150	25	25	236	124	795
250-400	400	250	310	300	350	100	600	450	150	25	25	220	130	621
315-400	400	315	375	350	400	125	650	450	150	25	25	267	155	795
315-450	450	315	375	350	400	125	650	450	150	25	25	292	180	795
315-500	500	315	375	350	400	125	650	450	150	25	25	292	180	795
400-500	500	400	480	400	450	150	650	450	150	25	25	328	204	858
400-560	560	400	480	400	450	150	650	450	150	25	25	349	225	858

Model	H2a	H2b	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7		
size	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	
200-315	364	500	271	20	50	453	491	590	345	415	12	204	TBA	
250-315	454	633	320	30	80	568	618	723	442	518	19	261	TBA	
250-355	454	633	320	30	80	568	618	723	442	518	19	261	TBA	
315-355	530	720	464	50	80	659	709	930	533	609	19	358	TBA	
250-400	454	633	320	30	80	568	618	723	442	518	19	261	TBA	
315-400	530	720	464	50	80	659	709	930	533	609	19	358	TBA	
315-450	530	720	464	50	80	659	709	930	533	609	19	358	TBA	
315-500	530	720	464	50	80	659	709	930	533	609	19	358	TBA	
400-500	557	750	510	50	80	721	771	1003	595	671	19	357	TBA	
400-560	557	750	510	50	80	721	771	1003	595	671	19	357	TBA	

We reserve the right to alter measurements without notice in case of technical improvements



CHEM xxx-630-631 to xxx-710-722 PP



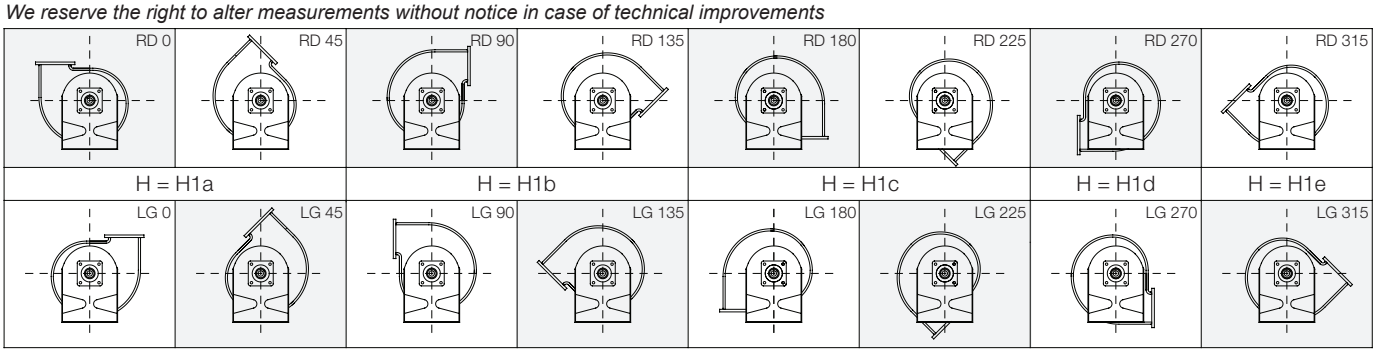
d [mm]	Key [mm]
45	14 x 9

The direction of rotation is as viewed from the drive side

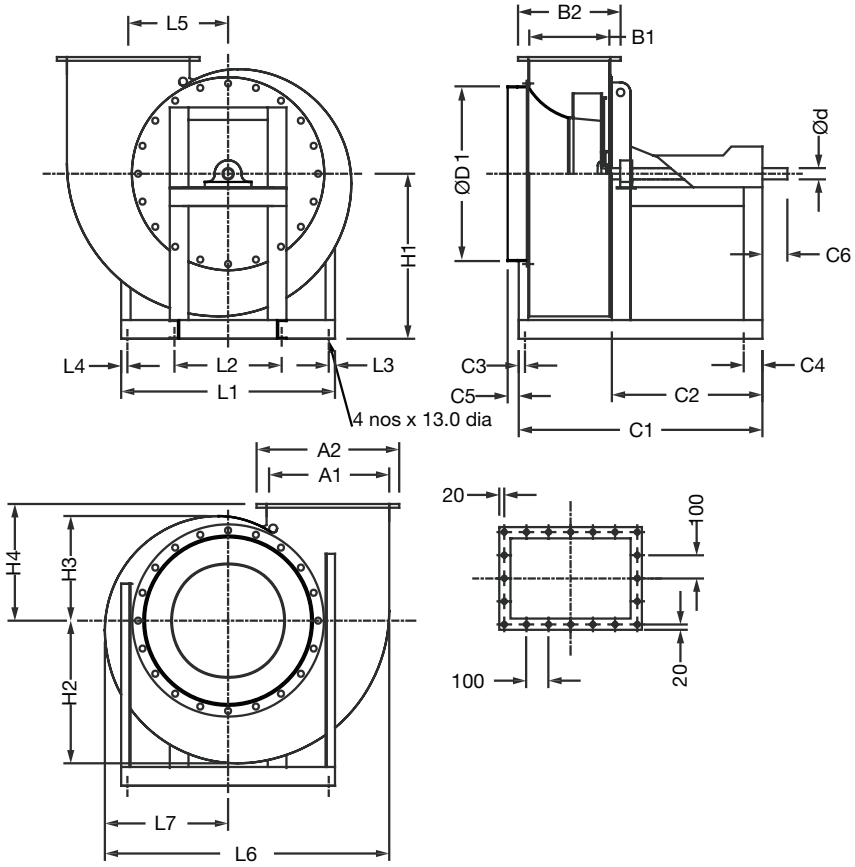
Model size	D1 [mm]	D2 [mm]	D3 [mm]	d [mm]	C1 [mm]	C2 [mm]	C3 [mm]	C4 [mm]	C5 [mm]	C6 [mm]	H1a [mm]	H1b [mm]	H1c [mm]
450-630	630	450	530	45	977	604	19	75	-	100	685	598	TBA
450-710	710	450	530	45	977	604	19	75	-	100	685	598	TBA

Model size	H1d [mm]	H1e [mm]	H2 [mm]	H3 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	L7 [mm]	⛸ (kg)
450-630	800	700	603	479	532	858	430	25	25	408	1208	541	TBA
450-710	800	700	603	479	532	858	430	25	25	408	1208	541	TBA

We reserve the right to alter measurements without notice in case of technical improvements



CHEM xxx-710-722 to xxx-1120-1120 PP



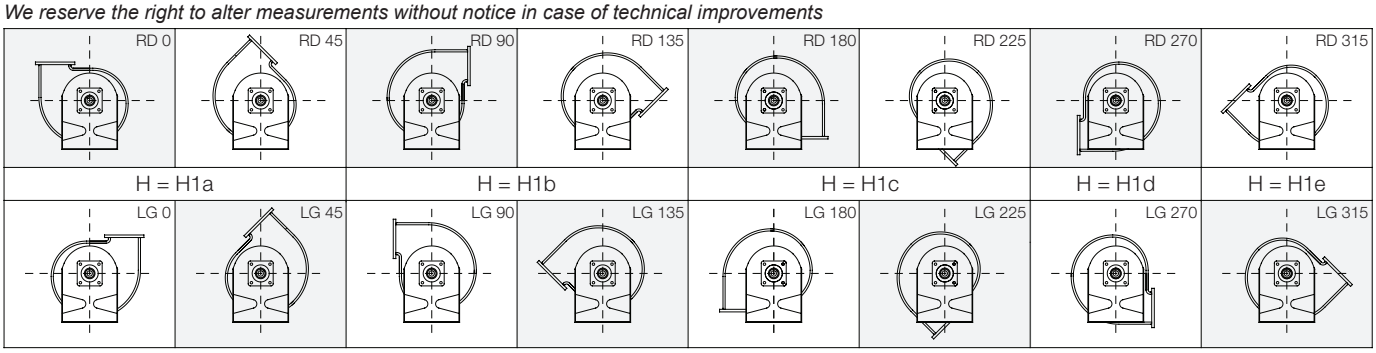
d [mm]	Key [mm]
45	14 x 9
60	18 x 11

The direction of rotation is as viewed from the drive side

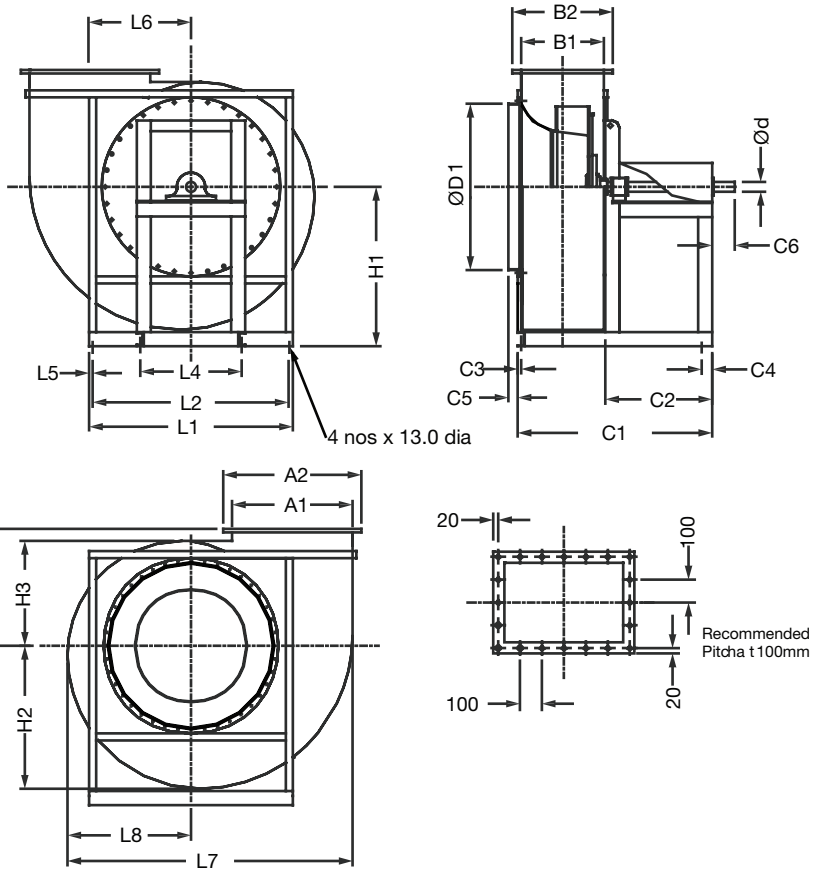
Model size	A1 [mm]	A2 [mm]	B1 [mm]	B2 [mm]	C1 [mm]	C2 [mm]	C3 [mm]	C4 [mm]	C5 [mm]	C6 [mm]	D1 [mm]	d [mm]	H1a [mm]	H1b [mm]
500-710	536	626	357	447	1013	604	19	75	30	100	710	45	783	633
500-800	536	626	357	447	1013	604	19	75	30	100	800	45	783	633
560-800	600	700	400	500	1058	604	19	75	30	100	800	45	870	709
560-900	600	700	400	500	1058	604	19	75	30	100	900	60	870	709
630-900	675	775	450	550	1184	677	19	75	30	125	900	60	939	775
630-1000	675	775	450	550	1184	677	19	75	30	125	1000	60	939	775
710-1000	761	881	507	627	1332	761	19	75	30	125	1000	60	1030	900
710-1120	761	881	507	627	1332	761	19	75	30	125	1120	70	1030	900

Model size	H1c [mm]	H1d [mm]	H1e [mm]	H2 [mm]	H3 [mm]	H4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	L7 [mm]	(kg)
500-710	TBA	911	786	634	465	518	970	482	25	25	445	1268	549	TBA
500-800	TBA	911	786	634	465	518	970	482	25	25	445	1268	549	TBA
560-800	TBA	1005	879	710	521	580	1090	429	25	25	498	1420	615	TBA
560-900	TBA	1005	879	710	521	580	1090	429	25	25	498	1420	615	TBA
630-900	TBA	1128	950	799	586	653	1222	507	25	25	561	1597	692	TBA
630-1000	TBA	1128	950	799	586	653	1222	507	25	25	561	1597	692	TBA
710-1000	TBA	1250	1110	900	660	736	1273	573	25	25	632	1800	780	TBA
710-1120	TBA	1250	1110	900	660	736	1273	573	25	25	632	1800	780	TBA

We reserve the right to alter measurements without notice in case of technical improvements



CHEM xxx-1120-1120 to xxx-2000-2000 PP



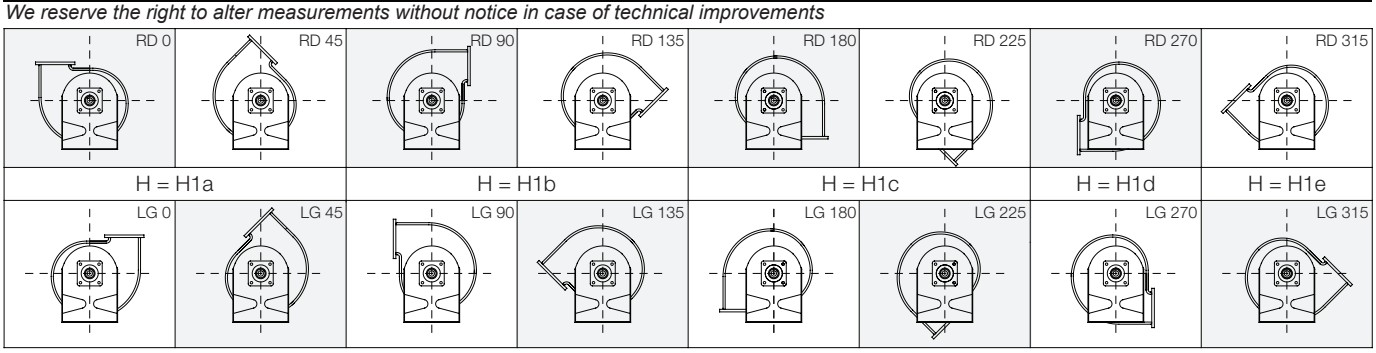
d [mm]	Key [mm]
70	20 x 12
80	22 x 14

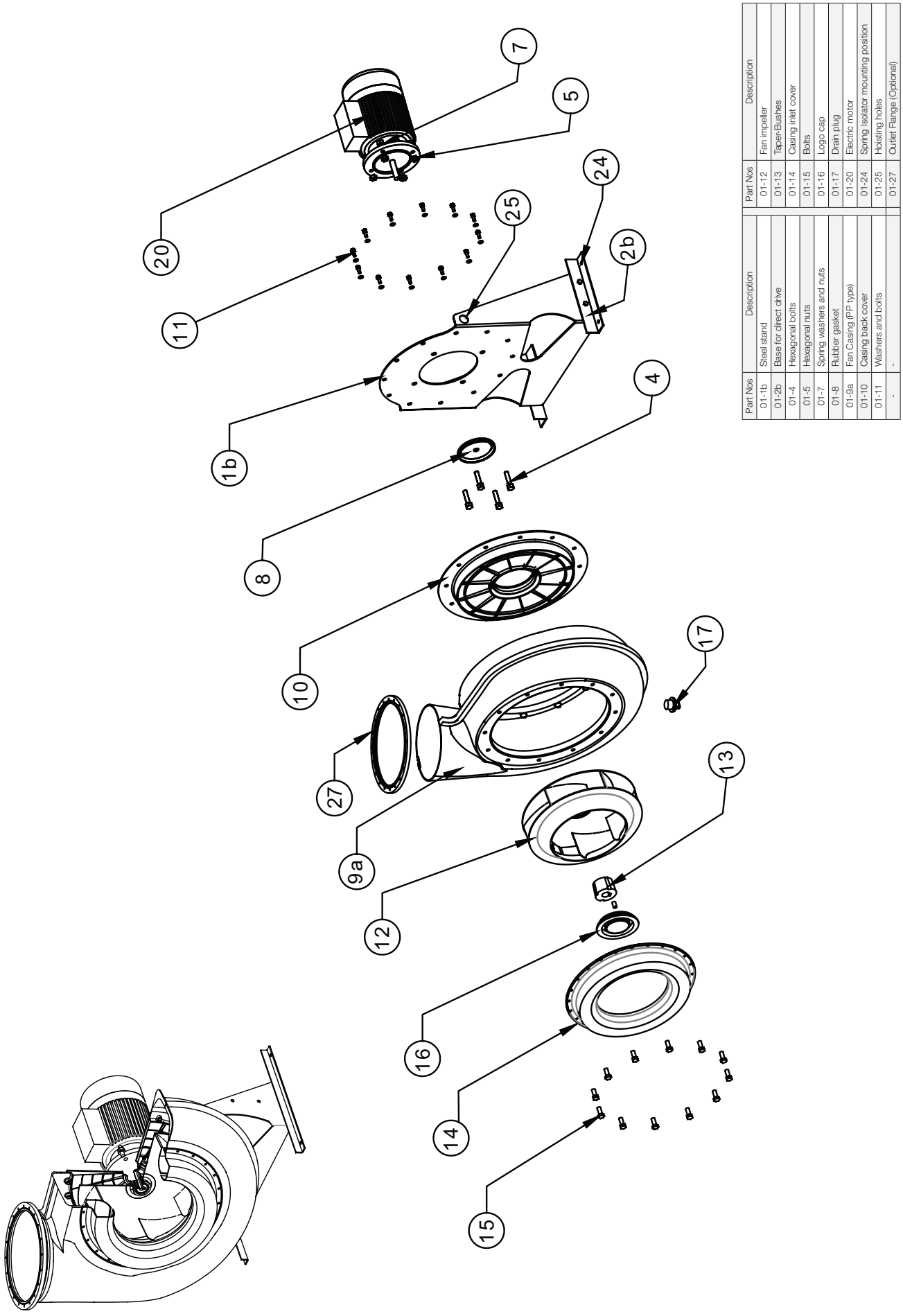
The direction of rotation is as viewed from the drive side

Model	A1	A2	B1	B2	C1	C2	C3	C4	C5	C6	D1	d	H1a	H1b
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
800-1120	857	983	589	715	1385	761	25	75	50	160	1120	70	1130	1000
800-1250	857	983	589	715	1385	761	25	75	50	160	1250	70	1130	1000
900-1250	964	1090	643	769	1711	1000	25	75	50	160	1250	70	1278	1105
900-1400	964	1090	643	769	1711	1000	25	75	50	160	1400	70	1278	1105
1000-1400	1066	1192	714	854	1797	1000	25	75	50	160	1400	70	1375	1200
1000-1600	1066	1192	714	854	1797	1000	25	75	50	160	1600	80	1375	1200
1120-1600	1192	1332	840	940	1875	1000	25	75	50	200	1600	80	1550	1350
1120-1800	1192	1332	840	940	1875	1000	25	75	50	200	1800	80	1550	1350
1250-1800	1330	1480	893	1043	1969	1000	25	75	50	200	1800	80	1700	1500
1250-2000	1330	1480	893	1043	1969	1000	25	75	50	200	2000	80	1700	1500

Model	H1c	H1d	H1e	H2	H3	H4	L1	L2	L4	L5	L6	L7	L8	
size	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	(kg)
800-1120	TBA	1280	1230	1014	744	829	1450	1400	721	25	729	2029	879	TBA
800-1250	TBA	1280	1230	1014	744	829	1450	1400	721	25	729	2029	879	TBA
900-1250	TBA	1428	1362	1141	837	933	1632	1582	818	25	821	2282	989	TBA
900-1400	TBA	1428	1362	1141	837	933	1632	1582	818	25	821	2282	989	TBA
1000-1400	TBA	1560	1500	1268	930	1037	1813	1763	914	25	896	2536	1099	TBA
1000-1600	TBA	1560	1500	1268	930	1037	1813	1763	914	25	896	2536	1099	TBA
1120-1600	TBA	1760	1600	1420	1041	1161	2030	1980	1030	25	1003	2840	1231	TBA
1120-1800	TBA	1760	1600	1420	1041	1161	2030	1980	1030	25	1003	2840	1231	TBA
1250-1800	TBA	1935	1800	1585	1162	1296	2100	2050	1140	25	1120	3170	1373	TBA
1250-2000	TBA	1935	1800	1585	1162	1296	2100	2050	1140	25	1120	3170	1373	TBA

We reserve the right to alter measurements without notice in case of technical improvements

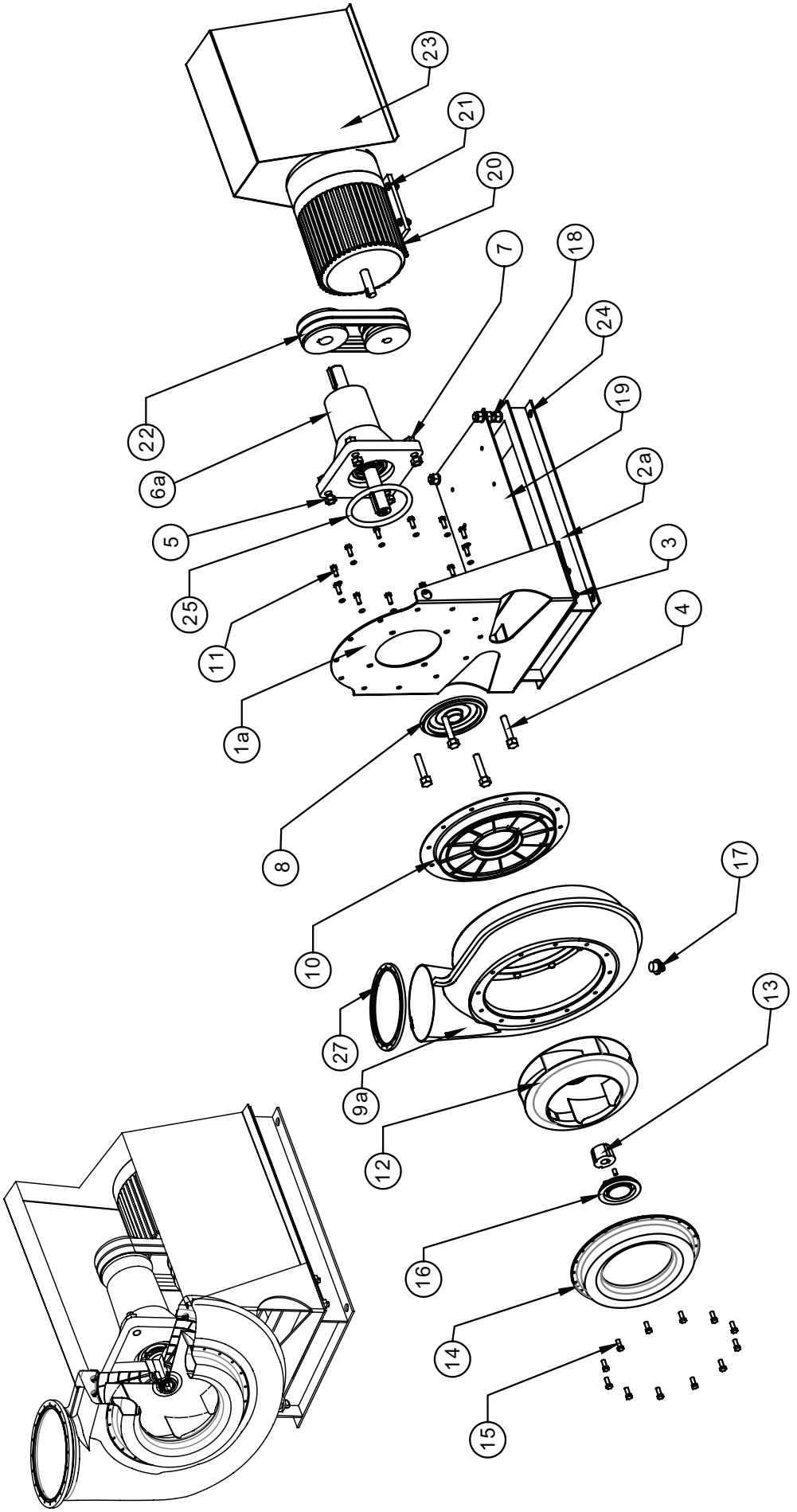




Part Nos	Description
01-1b	Steel stand
01-2b	Base for direct drive
01-4	Hexagonal bolts
01-5	Hexagonal nuts
01-7	Spring washers and nuts
01-8	Rubber gasket
01-9a	Fan Casing (PP type)
01-10	Casing back cover
01-11	Washers and bolts
-	-

Part Nos	Description
01-12	Fan impeller
01-13	Taper-Bushes
01-14	Casing inlet cover
01-15	Bolts
01-16	Logo cap
01-17	Drain plug
01-20	Electric motor
01-24	Spring isolator mounting position
01-25	Hoisting holes
01-27	Outlet Flange (Optional)

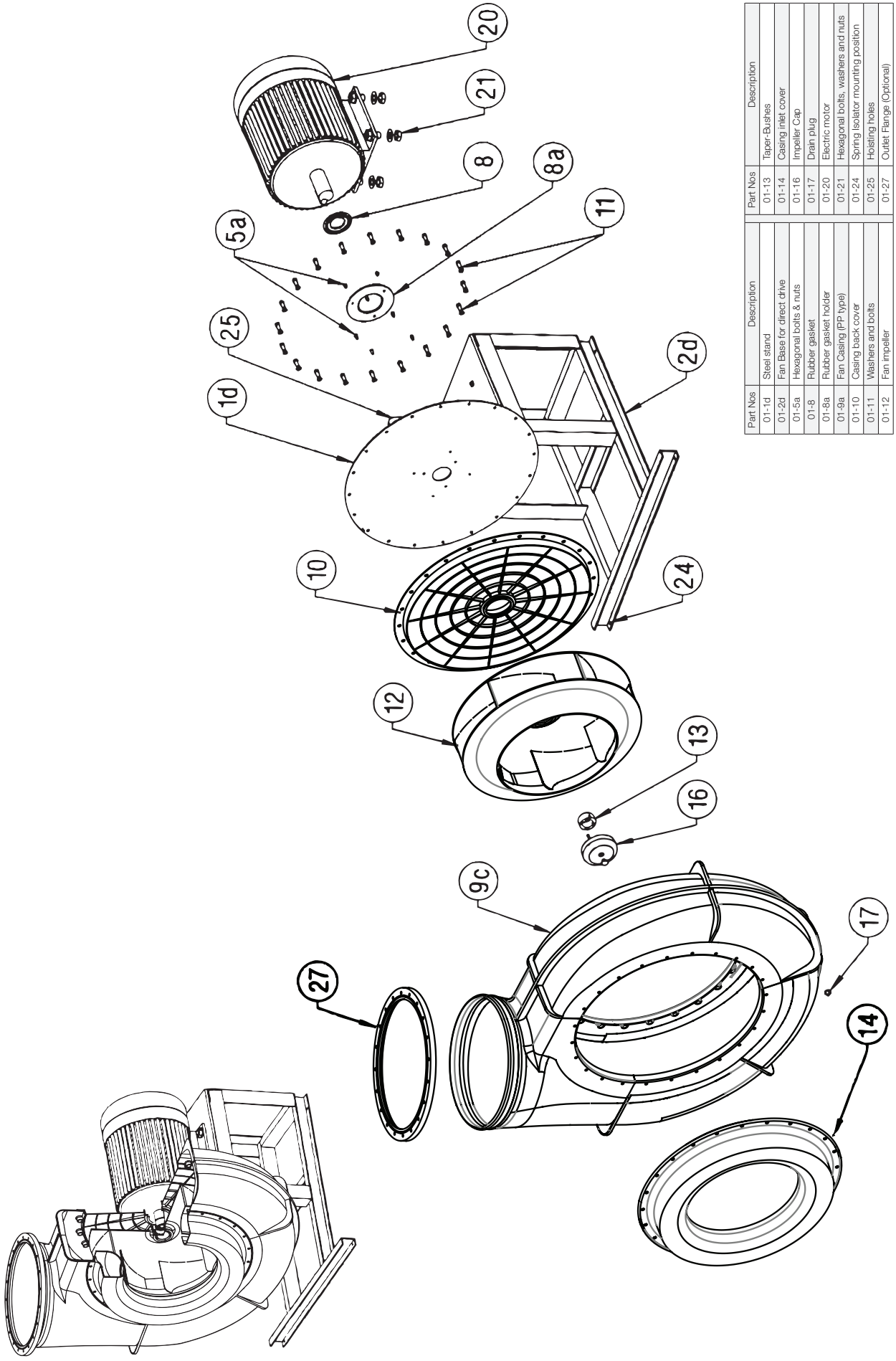
CHEM xxx-315-317 to xxx-560-570 DD



Part Nos	Description
01-1a	Steel stand
01-2a	Base for belt drive
01-3	Bolts and nuts
01-4	Hexagonal bolts
01-5	Hexagonal nuts
01-6a	Flange bearing
01-7	Spring washers and nuts
01-8	Rubber gasket
01-9a	Fan casing(PP type)
01-10	Casing back cover
01-11	Washers and bolts
01-12	Fan impeller
01-13	Taper-Bushes

Part Nos	Description
01-14	Casing inlet cover
01-15	Bolts
01-16	Logo cap
01-17	Drain plug
01-18	Threaded rod,washers and nuts
01-19	Motor mounting plate
01-20	Electric motor
01-21	Hexagonal bolts,washers and nuts
01-22	Pulley and belts drive
01-23	Belts guard
01-24	Spring isolator mounting position
01-25	Seal ring
01-27	Outlet Flange (Optional)

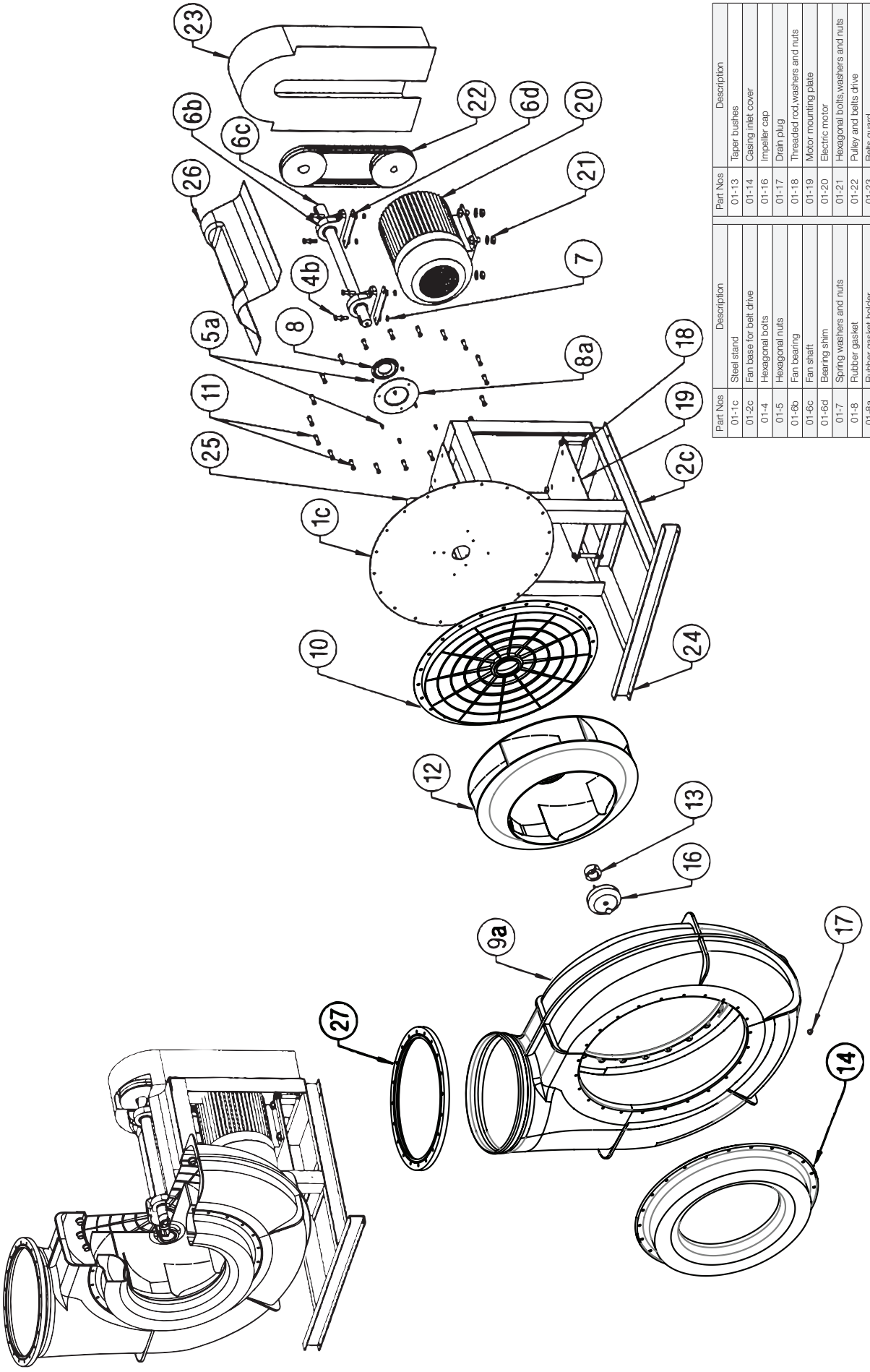
CHEM xxx-315-317 to xxx-560-570 BD



Part Nos	Description
01-1d	Steel stand
01-2d	Fan Base for direct drive
01-5a	Hexagonal bolts & nuts
01-8	Rubber gasket
01-8a	Rubber gasket holder
01-9a	Fan Casing (PP type)
01-10	Casing back cover
01-11	Washers and bolts
01-12	Fan impeller

Part Nos	Description
01-13	Taper-Bushes
01-14	Casing inlet cover
01-16	Impeller Cap
01-17	Drain plug
01-20	Electric motor
01-21	Hexagonal bolts, washers and nuts
01-24	Spring isolator mounting position
01-25	Hoisting holes
01-27	Outlet Flange (Optional)

CHEM xxx-630-631 to xxx-710-722 DD



Part Nos	Description
01-1c	Steel stand
01-2c	Fan base for belt drive
01-4	Hexagonal bolts
01-5	Hexagonal nuts
01-6b	Fan bearing
01-6c	Fan shaft
01-6d	Bearing shim
01-7	Spring washers and nuts
01-8	Rubber gasket
01-8a	Rubber gasket holder
01-9a	Fan casing (PP type)
01-10	Casing back cover
01-11	Washers and nuts
01-12	Fan impeller
01-13	Taper bushes
01-14	Casing inlet cover
01-16	Impeller cap
01-17	Drain plug
01-18	Threaded rod,washers and nuts
01-19	Motor mounting plate
01-20	Electric motor
01-21	Hexagonal bolts,washers and nuts
01-22	Pulley and belts drive
01-23	Belts guard
01-24	Spring isolator mounting position
01-25	Hoisting holes
01-26	Bearing cover
01-27	Outlet Flange (Optional)

CHEM xxx-630-631 to xxx-710-722 BD

Description	Specified	Offered
CHEMCO Chemical Resistant Centrifugal Fan **Model CHEM xxx-315-317 to xxx-560-570DD (Direct Driven)** Fan Location	Polypropylene Plastic Fan	
Volume m^3/h External static pressure Pa Fan speed min^{-1} Brake-Input kW Motor-Output kW Full load Current A A-weighted Sound power level dB(A) Fan Weight Kg Standard Colour	 Black	
Type of Casing Precision plastic injection moulded, are suitable for dual rotation at any position. Injection moulded back plate & inlet cover can be removed for changing of rotation and maintenance. Outlet flange comes with chemical resistant seal to prevent air leakage. Casing are blended with ultra violet protection. No metal parts are situated in the airflow to eliminate the risk of corrosion. Casings with drain outlets at lowest point. Can be rotated to suit different discharge positions. c/w back draft rubber seal between casing and drive shaft.	Polypropylene	
Type of Impeller Impellers are of Single Inlet Single Width (SISW) type. Precision plastic injection moulded with cast in hub. The hubs are designed for use with taper bushes to guarantee high reliability at high peripheral speeds.	Polypropylene Backward Curve	
Performance tested Fan rated in accordance with: Impeller is statically and dynamically balanced in two planes.	 ISO 5801 / AMCA 210 G2.5 of VDI 2060	
Fan Base and Support Heavy gauge mild steel with maximum protection in the most adverse condition	Hot-dipped galvanised	
Type of Drive	Direct Driven	
Motor Drive Shaft Solid type ground and polished to give tight, accurate bearing fit.	DIN17210-C45 or AISI C-1045	
Motor Bearing Fitted with two standard anti-friction bearings with acid proof seal. L10 life	Grooved balls	
Electric motor Standard Flameproof Tropicalised Single Phase: Three Phase:	 Yes/No Yes/No Yes/No 220~240 volts 50/60 Hz 380~415 volts 50/60 Hz	
Special Accessories Required Inspection View Port Anti-vibration spring mounting Inlet sleeve with clamping bands Splinter protection cover	 Yes/No Yes/No Yes/No Yes/No	
Optional Requirement Temperature (°C) Casing material Impeller material Fan Base and Support Flame Retardant	 80 PA / PC / PVC / PVDF PA / PC / PVC / PVDF SS304 / SS316 Yes/No	
Electrostatic Discharge Anti-static Static dissipative Conductive	 Yes/No Yes/No Yes/No	

Maximum operating sound power level (dB re10^{-12}W):

Octave band mid frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Specified								
Offered								

Description		Specified	Offered
CHEMCO Chemical Resistant Centrifugal Fan **Model CHEM xxx-315-317 to xxx-560-570BD (Belt Driven)** Fan Location		Polypropylene Plastic Fan	
Volume	m^3/h		
External static pressure	Pa		
Fan speed	min^{-1}		
Brake-Input	kW		
Motor-Output	kW		
Full load Current	A		
A-weighted Sound power level	dB(A)		
Fan Weight	Kg		
Standard Colour		Black	
Type of Casing Precision plastic injection moulded, are suitable for dual rotation at any position. Injection moulded back plate & inlet cover can be removed for changing of rotation and maintenance. Outlet flange comes with chemical resistant seal to prevent air leakage. Casing are blended with ultra violet protection. No metal parts are situated in the airflow to eliminate the risk of corrosion. Casings with drain outlets at lowest point. Can be rotated to suit different discharge positions. c/w back draft rubber seal between casing and drive shaft.		Polypropylene	
Type of Impeller Impellers are of Single Inlet Single Width (SISW) type. Precision plastic injection moulded with cast in hub. The hubs are designed for use with taper bushes to guarantee high reliability at high peripheral speeds.		Polypropylene Backward Curve	
Performance tested Fan rated in accordance with: Impeller is statically and dynamically balanced in two planes.		ISO 5801 / AMCA 210 G2.5 of VDI 2060	
Fan Base and Support Heavy gauge mild steel with maximum protection in the most adverse condition		Hot-dipped galvanised	
Type of Drive		Belt Driven	
Drive Shaft Solid type ground and polished to give tight, accurate bearing and hubs fit.		DIN17210-C45 or AISI C-1045	
Bearing Belt driven flange mounted bearing housings type. Fitted with two standard anti friction bearings with acid proof seal. L10 life		Aluminium cast type Grooved balls	
Fan Drive Fan and Motor Pulley drive come with taper bush type balanced to: Vee belts conform to:		ISO 4183 1995 ISO 4148:2004(E)	
Electric motor Standard Flameproof Tropicalised Single Phase: Three Phase:		 Yes/No Yes/No Yes/No 220~240 volts 50/60 Hz 380~415 volts 50/60 Hz	
Special Accessories Required Inspection View Port Anti-vibration spring mounting Motor Guard Motor slide rails Belt guard Inlet sleeve with clamping bands Splinter protection cover		 Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No	
Optional Requirement Temperature (ºC) Casing material Impeller material Fan Base and Support Flame Retardant		 80 PA / PC / PVC / PVDF PA / PC / PVC / PVDF SS304 / SS316 Yes/No	
Electrostatic Discharge Anti-static Static dissipative Conductive		 Yes/No Yes/No Yes/No	

Maximum operating sound power level (dB re10^{-12}W):

Octave band mid frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Specified								
Offered								

Description	Specified	Offered
CHEMCO Chemical Resistant Centrifugal Fan **Model CHEM xxx-630-631 to xxx-710-722DD (Direct Driven)** Fan Location	PP Plastic Fan	
Volume m^3/h External static pressure Pa Fan speed min^{-1} Brake-Input kW Motor-Output kW Full load Current A A-weighted Sound power level dB(A) Fan Weight Kg Standard Colour	 Black	
Type of Casing Precision plastic injection moulded, suitable for dual rotation at any position. Injection moulded back plate & inlet cover can be removed for changing of rotation and maintenance. Outlet flange comes with chemical resistant seal to prevent air leakage. Casing are blended with ultra violet protection. No metal parts are situated in the airflow to eliminate the risk of corrosion. Casings with drain outlets at lowest point. Can be rotated to suit different discharge positions. C/W back draft rubber seal between casing and drive shaft.	Polypropylene	
Type of Impeller Impellers are of Single Inlet Single Width (SISW) type. Impeller with heavy-duty cast in hub. The hubs are designed for use with taper bushes to guarantee high reliability at high peripheral speeds.	Polypropylene Backward Curve	
Performance tested Fan rated in accordance with: Impeller is statically and dynamically balanced in two planes.	 ISO 5801 / AMCA 210 G2.5 of VDI 2060	
Fan Base and Support Heavy gauge mild steel with maximum protection in the most adverse condition	Hot-dipped galvanised	
Type of Drive	Direct Driven	
Motor Drive Shaft Solid type ground and polished to give tight, accurate bearing fit.	DIN17210-C45 or AISI C-1045	
Motor Bearing Fitted with two standard anti-friction bearings with acid proof seal. L10 life	Grooved balls	
Electric motor Standard Flameproof Tropicalised Three Phase:	 Yes/No Yes/No Yes/No 380~415 volts 50/60 Hz	
Special Accessories Required Inspection View Port Anti-vibration spring mounting Inlet sleeve with clamping bands Splinter protection cover	 Yes/No Yes/No Yes/No Yes/No	
Optional Requirement Temperature (°C) Casing material Impeller material Fan Base and Support Flame Retardant Ultra Violet protection	 80 PA / PC / PVC / PVDF PA / PC / PVC / PVDF SS304 / SS316 Yes/No Yes/No	
Electrostatic Discharge Anti-static Static dissipative Conductive	 Yes/No Yes/No Yes/No	

Maximum operating sound power level (dB re10^{-12}W):

Octave band mid frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Specified								
Offered								

Description	Specified	Offered
CHEMCO Chemical Resistant Centrifugal Fan **Model CHEM xxx-630-631 to xxx-710-722BD (Belt Driven)** Fan Location	PP Plastic Fan	
Volume m^3/h External static pressure Pa Fan speed min^{-1} Brake-Input kW Motor-Output kW Full load Current A A-weighted Sound power level dB(A) Fan Weight Kg Standard Colour	 Black	
Type of Casing Precision plastic injection moulded, suitable for dual rotation at any position. Injection moulded back plate & inlet cover can be removed for changing of rotation and maintenance. Outlet flange comes with chemical resistant seal to prevent air leakage. Casing are blended with ultra violet protection. No metal parts are situated in the airflow to eliminate the risk of corrosion. Casings with drain outlets at lowest point. Can be rotated to suit different discharge positions. C/W back draft rubber seal between casing and drive shaft.	Polypropylene	
Type of Impeller Impellers are of Single Inlet Single Width (SISW) type. Impeller with heavy-duty cast in hub. The hubs are designed for use with taper bushes to guarantee high reliability at high peripheral speeds.	Polypropylene Backward Curve	
Performance tested Fan rated in accordance with: Impeller is statically and dynamically balanced in two planes.	 ISO 5801 / AMCA 210 G2.5 of VDI 2060	
Fan Base and Support Heavy gauge mild steel with maximum protection in the most adverse condition	Hot-dipped galvanised	
Type of Drive	Belt Driven	
Drive Shaft Solid type ground and polished to give tight, accurate bearing and hubs fit.	DIN17210-C45 or AISI C-1045	
Bearing Belt driven flange mounted bearing housings type. Fitted with two standard anti friction bearings with acid proof seal. L10 life	Aluminium cast type Grooved balls	
Fan Drive Fan and Motor Pulley drive come with taper bush type balanced to: Vee belts conform to:	 ISO 4183 1995 ISO 4148:2004(E)	
Electric motor Standard Flameproof Tropicalised Three Phase:	 Yes/No Yes/No Yes/No 380~415 volts 50/60 Hz	
Special Accessories Required Inspection View Port Anti-vibration spring mounting Motor Guard Motor slide rails Belt guard Inlet sleeve with clamping bands Splinter protection cover Manual / Semi / Automatic greasing system	 Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No	
Optional Requirement Temperature (ºC) Casing material Impeller material Fan Base and Support Flame Retardant Ultra Violet protection	 80 PA / PC / PVC / PVDF PA / PC / PVC / PVDF SS304 / SS316 Yes/No Yes/No	
Electrostatic Discharge Anti-static Static dissipative Conductive	 Yes/No Yes/No Yes/No	

Maximum operating sound power level (dB re10^{-12}W):

Octave band mid frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Specified								

Sound power levels

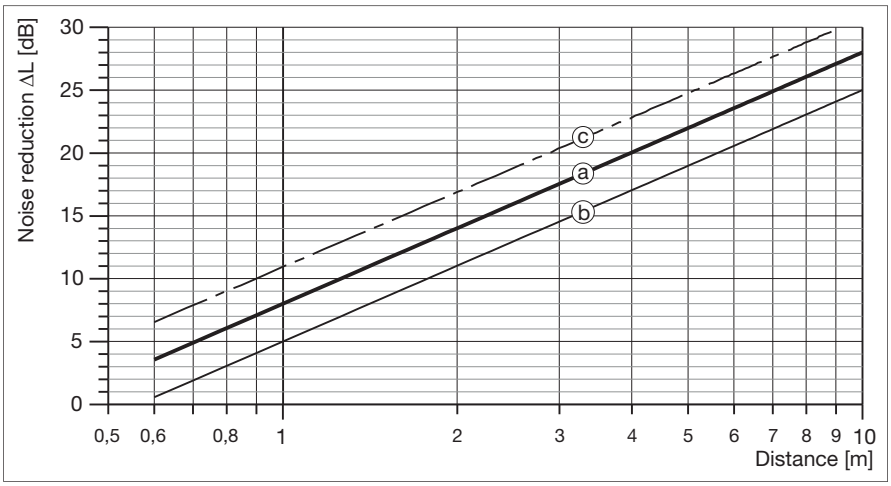
This term refers to the power which a source radiates as sound. Sound power levels are expressed in decibels with a reference level of 1 picoWatt. The sound power level of a source remains the same regardless of its environment and the distance to the listener.

If the sound power frequency spectrum is needed, for as follows: example, the design of sound attenuators, the A- rated sound power levels at particular octave band frequency L_{WA} can be calculated by subtracting the relative sound L_{wrel}.

$$L_{WA} = L_{wi} + L_{wrel}$$

Sound pressure level

These are pressure fluctuations generated by a source expressed in decibels with a reference level of 20 µPa. The sound pressure level varies with the distance of a sound source to the listener and its environment.



Sound level reduction half sphere

a: without reflexion
b: with reflexion
c: full sphere without reflexion

Frequencies

Sound is split into different frequencies. Frequencies of human hearing range from about 20 cycles per second (Hz) to 20.000 cycles per second (Hz). For practical purposes, WOLTER publishes noise data in eight octave bands with the centre frequencies of (63,) 125, 250, 500, 1000, 2000, 4000 and 8000 Hz.

Each fan has its own specific correction factor which is to be deducted from sound power according to the octave band and is shown on the buttom line of each perfomance curve.

A-weighted sound pressure level in dB(A)

The human ear is more sensitive to sound in some frequencies than in others. The A-weighting is an attempt to reflect this natural perception of sound. The A-weighting is a set of figures which are applied to the sound pressure levels. The levels in each of the octave bands are added logarithmically to give a single figure. The A-weighting over the octave band is as follows:

Table 1)

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000
A-weighting [dB]	-26,2	-16,1	-8,6	-3,2	0	+1,2	+1,0	-1,1

Table 2)
Addition of sound levels

Difference between two sound levels [dB]	Add to the higher level [dB]
0 - 1	3
2 - 3	2
4 - 9	1
≥10	0

$$L_{\Sigma} = 10 \cdot \lg\left(10^{0,1 \cdot L_1} + 10^{0,1 \cdot L_2} + \ldots + 10^{0,1 \cdot L_n}\right)$$

where:
L_1 = sound level of a source 1
L_{Σ} = resulting summation sound level

Summation of several congeneric sound levels

$$L_{\Sigma} = L_1 + 10 \cdot \lg(z)$$

where:
z = number of sources
L_1 = sound level of a single source
L_{Σ} = resulting summation sound level

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Air In Motion

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