

ADA

**DOUBLE INLET
CENTRIFUGAL FAN
WITH AIRFOIL WHEELS**

ADA Series

DOUBLE INLET CENTRIFUGAL FAN with Airfoil Wheels



Kruger* certifies that the **ADA Series** shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and AMCA publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



*Kruger Ventilation Industries Asia Co., Ltd.



*Guangzhou Kruger Ventilation Co., Ltd.



*Kruger Ventilation Industries (Thailand) Co., Ltd.



*Shanghai Kruger Ventilation Co., Ltd.



*Kruger Ventilation (Taiwan) Co., Ltd.



*Tianjin Kruger Ventilation Co., Ltd.



*Kruger Ventilation Industries (India) Pvt. Ltd.



*Wuhan Kruger Ventilation Co., Ltd.



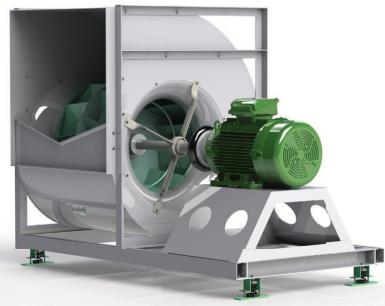
*Kruger M&E Industries Corporation



*Kruvent Industries (M) Sdn Bhd



*PT Kruger Ventilation Indonesia



ADA Series

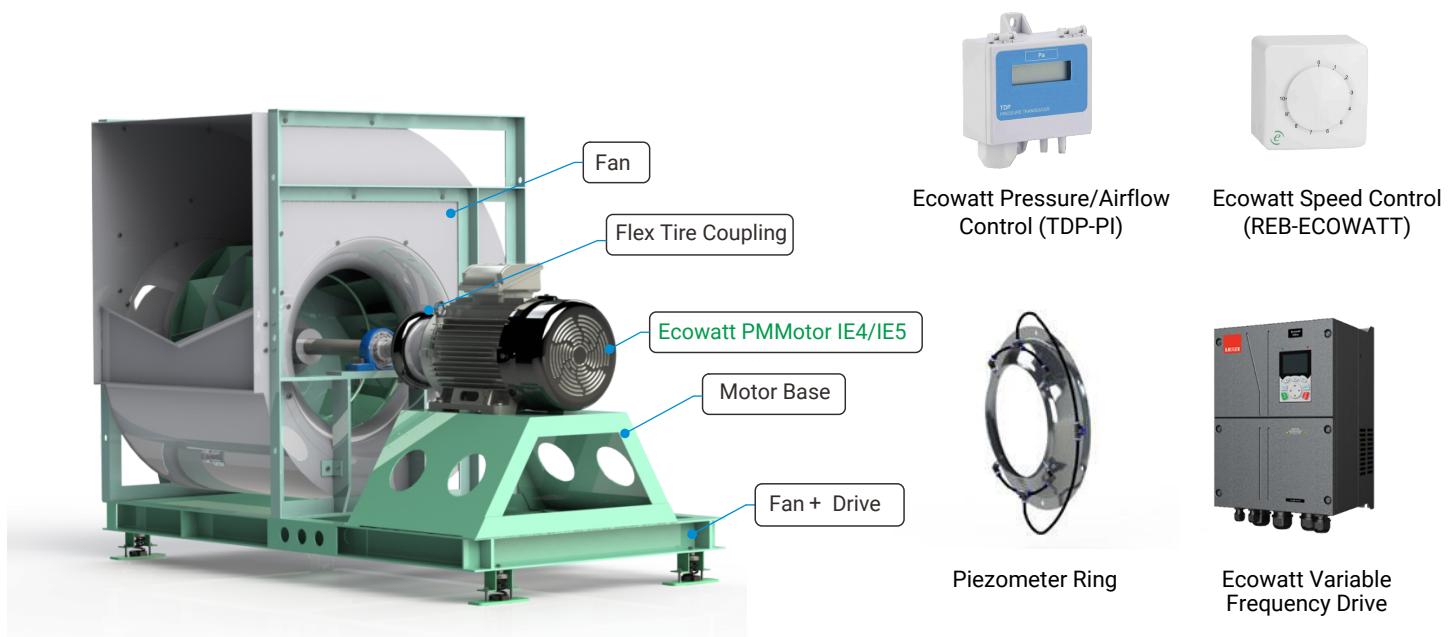
Double Inlet Centrifugal Fans – Airfoil wheels

The ADA series is DIDW centrifugal fans with high efficiency non-overloading backward curved impellers. The fans are suitable for supply or extract applications in commercial, process and industrial HVAC systems. Sizes of this series are in accordance with AMCA standard 99, section 5, R20.

ADA Series – Direct Coupling

Product Description

- Centrifugal fans ADA series, double inlet, direct drive through coupling with built-on AC or PM motor.
- Designed in accordance with AMCA Drive Arrangement 7 or ISO Drive Arrangement 17.
- High energy saving particularly long operating hours with Kruger's Ecowatt system (PM Motor + Drive + Controls).
- Fan and drive unit attached to a common rigid and stable steel base frame as standard with option for stainless steel base frame.
- Full range of ADA 315mm to 1400mm wheel with all fan classes.
- Optimal aerodynamics due to the large free cross section and minimal flow restriction into the impeller.
- Reliable, flexible and adaptable flex coupling for trouble free operation and installation.
- Speed regulation with Kruger approved inverter drive working together with piezometer ring for either constant airflow or constant pressure operation.
- Fully assembled fan trim balanced to ISO 14694:2003 & AMCA 204, G2.5 Standard. G1.0 Standard is available upon request.
- Not available on twin wheel.



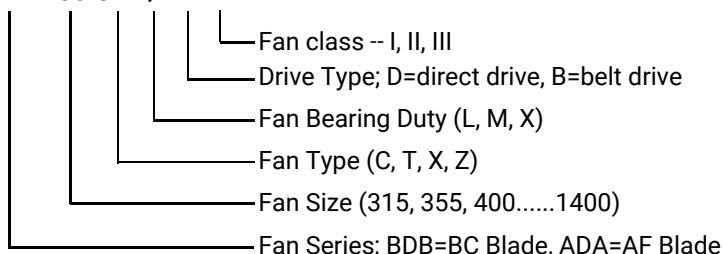
Best Total System Efficiency

$$\eta = \text{Fan\%} \times \text{PM Motor\%} \times \text{VFD\%}$$

$$= 84\% \times 96\% \times 98\% = 79\%$$

Nomenclature

MODEL: ADA 450 C M / D I



Model 315 to 710

Type S-C	I	Model 800 to 1400
Type T	II	I
Type X	III	II
Type Z		III

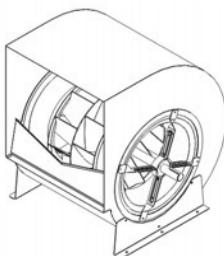
Table 1

Type / Operating Limit

Each fan type has its maximum operating speed and power due to its mechanical design.

The operating limit of ADA series - fan type is design to meet the requirement of class I, II and III limit as defined in AMCA standard 99, section 14, Fig 1.

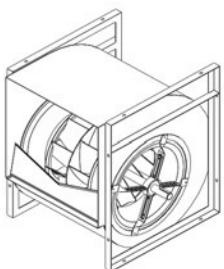
The ADA series is available in type S, C, T, X or Z.
S type is not available for direct coupling.



Type S

This type is supplied with mounting feet and can be mounted in three different orientations. The construction is mainly for OEM application which only subject to testing and approval.

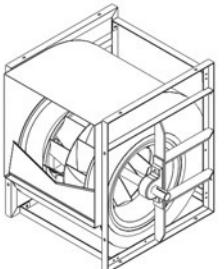
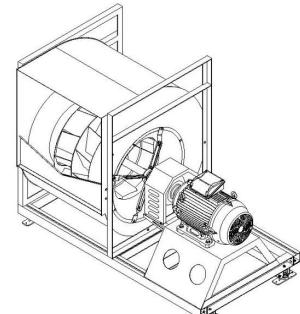
Fan Size: 315 to 710
Volume: 1900 to 50000 m³/h
Total Pressure: up to 2000 Pa



Type C

This type has a frame fitted on both sides of the fan which gives Better strength and rigidity.
It allows mounting in four different orientations.

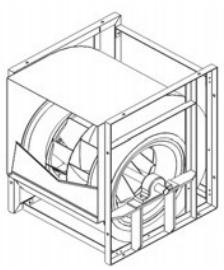
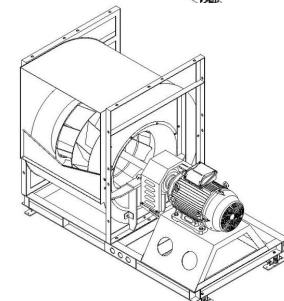
Fan Size: 315 to 710
Volume: 1900 to 50000 m³/h
Total Pressure: up to 2000 Pa



Type T

This type has a welded frame giving increased stiffness and rigidity for higher operating performance.

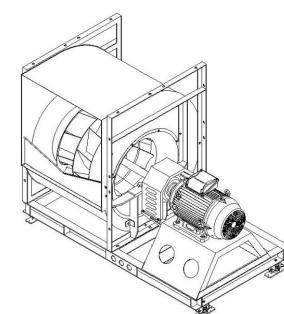
Fan Size: 315 to 1400
Volume: 1900 to 190 000 m³/h
Total Pressure: up to 2500 Pa



Type X/Z

The structure is similar to type T but utilizes enhanced bearings to support higher dynamic load necessary for the increased performance.

Fan Size: 315 to 1400
Volume: 1900 to 260 000 m³/h
Total Pressure: up to 3200 Pa



Type Z is non-standard, for more information, please consult your nearest Kruger Office for details.

Kruger Motor

- Reliable Induction Motor with Energy efficiency classes IE1/IE2/IE3.
- Premium Efficiency Permanent Magnet Motor IE4/IE5 are also available as standard.
- Design Standards BS 4999, BS 5000, IEC 60034, IEC 60072.
- Rated voltage 380-415 Hz/50Hz ± 10%.
- Stator Insulation; Class F Insulation; Class B Temperature Rise.
- Horizontal foot mounting or flange mounting: B3; B5, B14, B34; B35; V1.
- Standard Ambient Temperature: -20°C to 40°C; RH: <90% RH (non-condensation); Altitude < 1000m above sea level.



Best Efficiency 96%

Kruger Drive

- High Performance Inverter Drive with advanced vector control technology.
- Energy saving by PID function for Demand Controlled Ventilation.
- Easy control by Analog signal 0-10V, 4-20mA and RS485 Modbus RTU.
- Various drives both AC induction motor and permanent magnet synchronous motor.
- IP54 protection rating, independent duct design (IP20) also available.
- Safety by STO (safe Torque Off) and fire overdrive function.
- Wide range of output power 2.2kW – 220kW.



Best Efficiency 96%

Kruger Demand Controlled Ventilation

- Automatic close loop PID control by TDP-PI Ventilation controller
 - Constant Airflow control (with piezometer ring)
 - Constant Differential pressure control

Controller will maintain Pressure or Airflow set value by changing fan speed automatically as per actual load demand.

- Manual speed control by REB-Ecowatt
 - Adjust Fan speed by your hand with potentiometer 10k ohm



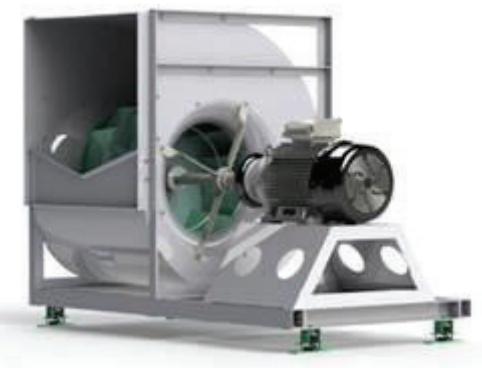
Flex Couplings

- High quality standard SKF flex couplings are used.
- Designed to accommodate misalignment and shock loads and damper vibration levels.
- Easy to install and maintenance free.
- Natural rubber compounds for application ranging from -50°C to +50°C.
- Couplings selection based on service factor as recommended by manufacturer.
- Other types of coupling are available upon request and approve by factory.



Why Choose Kruger Ecowatt Direct Coupling System?

- Ecowatt is high efficiency product family that utilizes a Super Premium Efficiency Motor in combination with demand-controlled ventilation to control fan performance as per actual load demand.
- Highly efficient backward curved with FEG rating from 85-90 with direct coupling reduces frictional losses and optimizes transmission and improves energy costs.
- Direct electrical energy transmission to the impeller increases the overall fan system efficiency.
- In addition, zero belt wears and break on belt improves reliability and productive run time and unnecessary maintenance.
- Overall, it means saving in total cost and long-term energy cost, extended service life and versatility in application.



Typical applications:

- Air handling unit installations in commercial or industrial settings running on 24/7 and a low energy input is required.
- Air handling unit installations where high static pressure and high airflow in a zero-contaminant environment is required.
- Examples are AHU installations for electronics, semiconductors, pharmaceutical, life sciences, OT rooms, food industries and other manufacturing industries that requires clean/contaminant free clean rooms.
- Air handling unit installations where conventional belt driven high energy input system is to be refurbished.

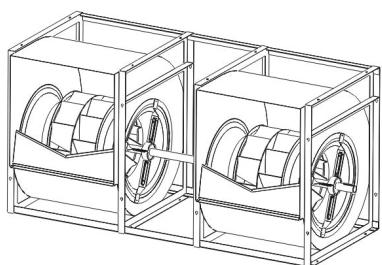
ADA Twin Fan

ADA series are also available in twin fan version, with two double inlet fans mounted on the same shaft. To select for twin fans, use the curves of single fan with the following factors: -

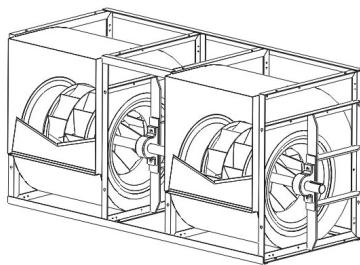
Volume	x 2
Absorbed Power	x 2.15
Speed	x 1.05
Noise	+ 3 dB

This series is available in type S2, C2 or T2

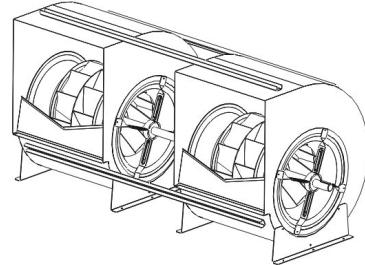
Performance of Twin fans are not AMCA licensed



Type S2
Size: 315 to 500
5000 to 50000m³/h

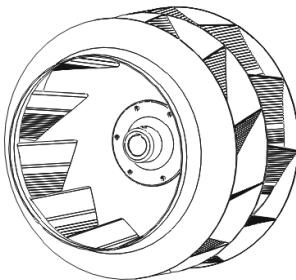


Type C2
Size: 315 to 500
5000 to 50000m³/h



Type T2
Size: 355 to 630
10000 to 80000m³/h

TECHNICAL SPECIFICATION

**Wheel**

The wheel of BDB series is made of cold rolled sheet steel backward curved blades with polyester powder coating finish. Alternative construction material in aluminum and stainless steel are available upon request. Check with Kruger for the limits of operation of these materials.

Housing

For all sizes except 1250 and above, the housing is manufactured in galvanized sheet steel with the housing fixed to the side plates in "pittsburg lock" form system.

Housings for 1250 and 1400 are manufactured in mild steel finished with polyester powder coating.

Fully welded housings are available upon request. Stainless steel housing is also available upon request.

Frame

The frame is manufactured with galvanized angular bars for type "C". For type "T" and "X", they are manufactured with sections of steel and finished with polyester powder coating.

Stainless steel frame is available upon request.

Shaft

Shafts are manufactured from C45 carbon steel using an automatic process for positioning and cutting of the keyways. All dimensional tolerances of the shaft are fully checked to ensure a precision fit and then coated with an anti-corrosion varnish after assembly. Stainless steel shaft is available upon request.

Bearing

Bearings used are either deep grooved ball bearing type with an adapter sleeve or spherical roller bearing type sealed at both sides for different duty application classified below:

Mounted in a rubber housing		Mounted on cast iron supports with grease point		
Fan Type	S	C	T	X
Bearing Duty	SM Medium Duty 	CM Medium Duty 	TM Medium Duty 	XM Medium Duty
eg. Model: ADA 450	C M Fan Bearing Duty (L, M, X) Fan Type (S, C, T, X, Z) Fan Size (315, 355, 400...1400)		TX Extra Heavy 	XX Extra Heavy

The bearings are lubricated for life and maintenance-free. If re-lubrication is necessary, it is recommended to use a lithium base grease suitable for suitable for all temperatures with the limits of operation.

Balancing Quality

All wheels are statically and dynamically balanced to ISO1940 and AMCA 204 – G2.5 standard.

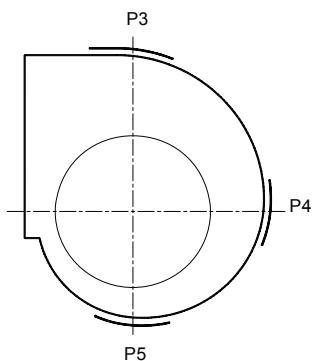
All fans after assembly are trim-balanced to ISO1940 and AMCA 204 - G2.5 standard.

Clean room application fans with balancing grade of G1.0 are available upon request.

ACCESSORIES

Casing Drain

This option is available when fans are exposed to the atmosphere or operating in high humidity condition.



Outlet Flanges

Outlet flanges are available upon request.

Inspection Doors

The inspection door can be supplied upon request. It can be supplied in one of the three positions (P3, P4 & P5).

Guards

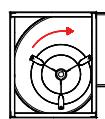
Inlet guards, discharge guards and non-drive end shaft guards are available on request.

Fan Rotation and Discharge

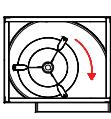
The rotation and discharge of the fan is in accordance with AMCA standard 99, section 11

The direction of rotation is determined from the drive side of the fan:

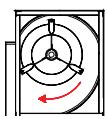
CW - clockwise rotation



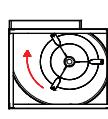
CW90



CW180

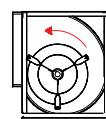


CW270

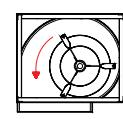


CW360

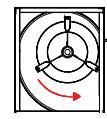
CCW - counter-clockwise rotation



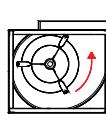
CCW90



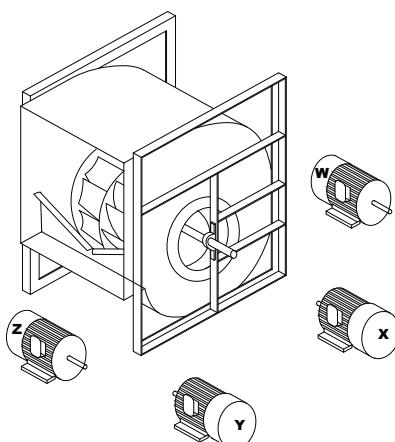
CCW180



CCW270



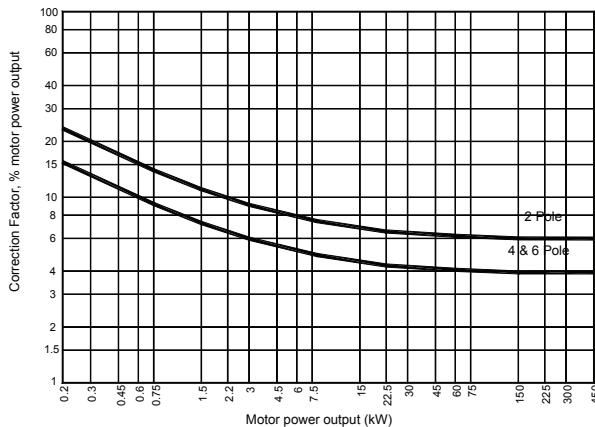
CCW360



Motor Position

The position of the motor for belt drive centrifugal fan is in accordance with AMCA standard 99, section 12

Location of motor is determined by facing the drive side of fan and designated by letters W, X, Y, or Z.

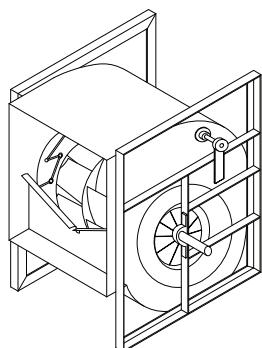


Motor Selection

The power curves shown on each performance graph represent the absorbed power at the shaft of the fan measured in kW.

To determine the power of the motor to be installed, a correction factor should be applied to compensate for transmission losses.

For conversion to horsepower (HP), use multiplying factor 1.34.



Inlet Vane Control

The inlet vane control enables energy saving that varies according to the vane control methods compared to traditional volume control methods.

Fig.1 shows the volume reduction corresponding to the vane position.

- with vane fully open (Pos 90°)
the volume will be 3% less than the catalogue performance.
- with vane fully closed (Pos 0°)
the volume will be reduced by 75%.

Performance of Inlet vane control is not AMCA licensed.

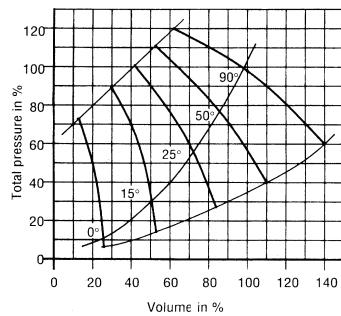


Fig. 1

IVC orientation and accessories

The standard orientation and lever position for the IVC is indicated in Fig.2. When ordering a complete fan with IVC and accessories, please specify as follow:

Fan orientation e.g. CCW270
lever position e.g. Pos. 45°

Example : Fan Model – CCW270/P45

Orientation	90	180	270	360
IVC Level Position	225°	315°	45°	135°
	315°	45°	135°	225°

Fig. 2 - IVC Orientation and Level Position

Dynamic Pressure

Both dynamic pressure and outlet air velocity values shown on each graph are calculated base on the full discharge area, i.e. ducted outlet condition.

With free outlet condition the velocity pressure is higher. To determine this new value multiply the velocity pressure of the ducted outlet obtained from the fan curve by the following correction factor "K".

$$\mathbf{K = 1.67}$$

Fan performance calculated with this correction factor is not licensed by AMCA.

Performance

The performance data shown on each graph is derived from tests conducted in accordance to AMCA Standard 210 – Fig 12 – installation type B (free inlet and ducted outlet condition).

Ratings refer to the standard air density with the total pressure as a function of the air volume, using logarithmic scale.

It is essential that the same installation type and test standards are used at all times when comparing fan performance.

Noise

The noise levels shown on each graph refer to the "A-weighted" sound power values and the data on the inlet side has been measured in accordance with AMCA Standard 300 diag. 2 - configuration "B". The noise levels of fans are determined as follow :

- Sound power level - ("A" scale): $Lw(A)$ as catalogue
- Octave band spectrum: $Lw = Lw(A) + Lw \text{ rel. dB}$ [refer to Kruger for more details]
- Sound pressure level:
 - a) free field
 $= Lw(A) - (20\log_{10}d) - 11$
 - b) room conditions
 $= Lw(A) - (20\log_{10}d) - 8$
where $d = \text{distance from fan (m)}$

Example of Selection

Air Volume $Q = 6516 \text{ m}^3/\text{h}$

Outlet Velocity $V = 8.91 \text{ m/s}$

Dynamic Pressure $P_d = 47.0 \text{ Pa}$

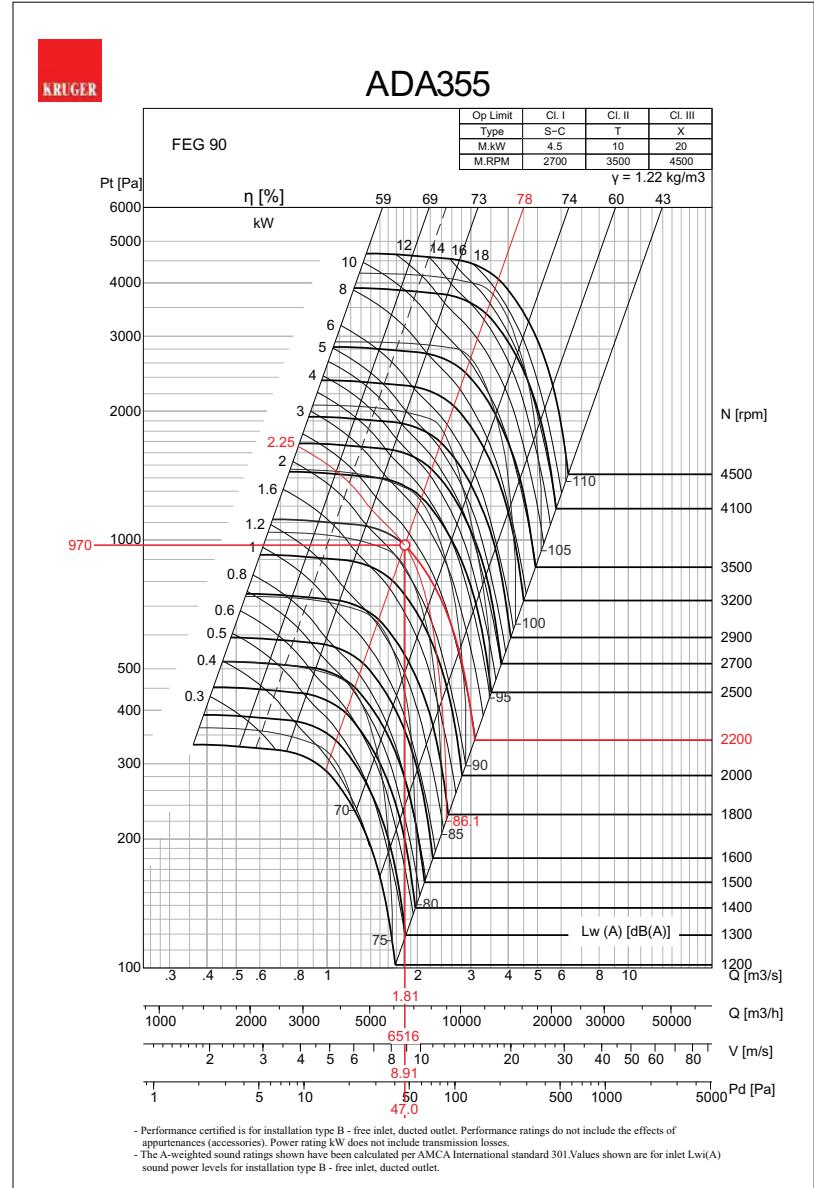
Total Pressure $P_t = 970 \text{ Pa}$

Fan Speed $N = 2200 \text{ rpm}$

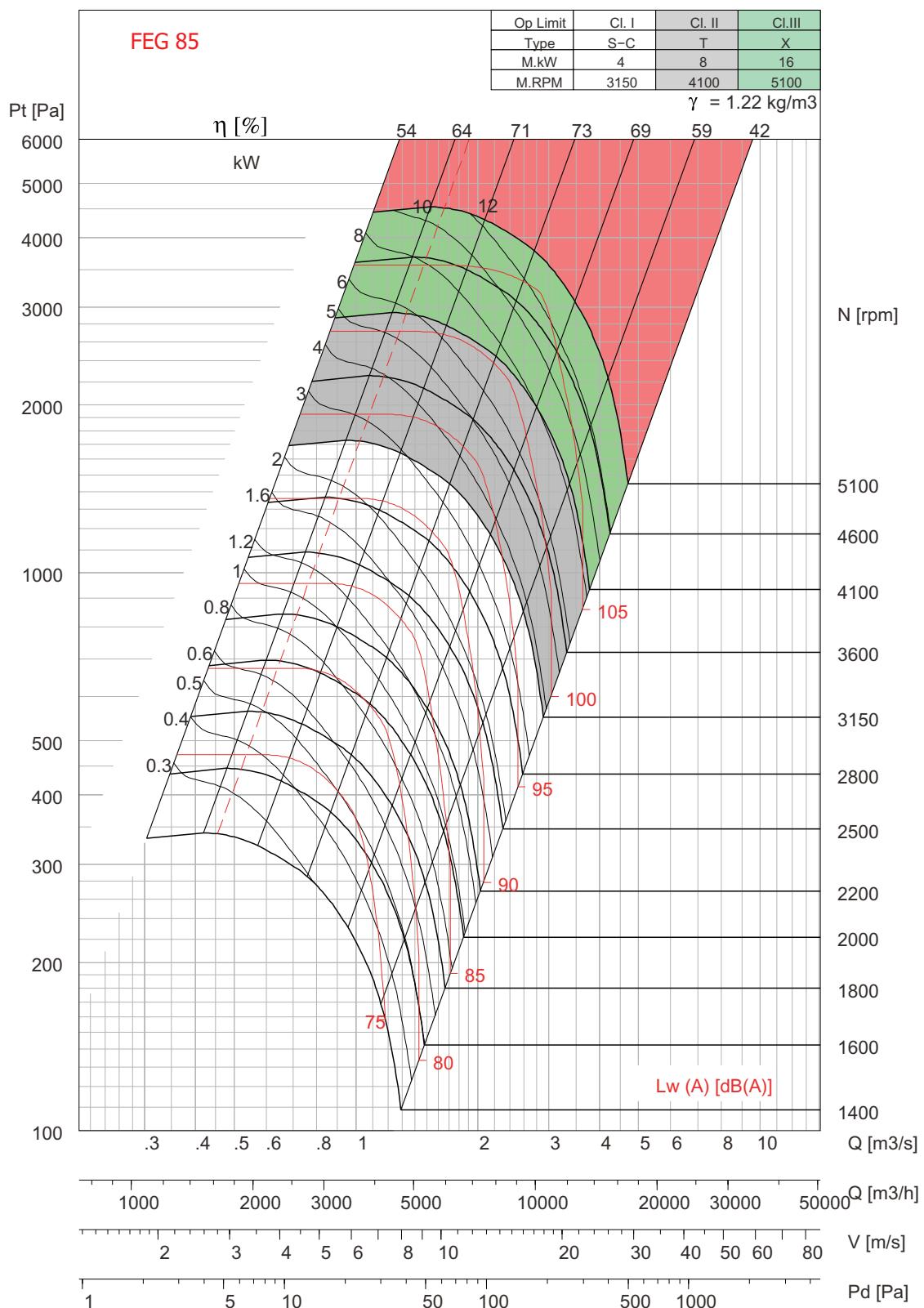
Absorbed Power $W = 2.25 \text{ kW}$

Total Efficiency $\eta = 78 \text{ %}$

Sound Power Level $L_w(A) = 86.1 \text{ dB(A)}$

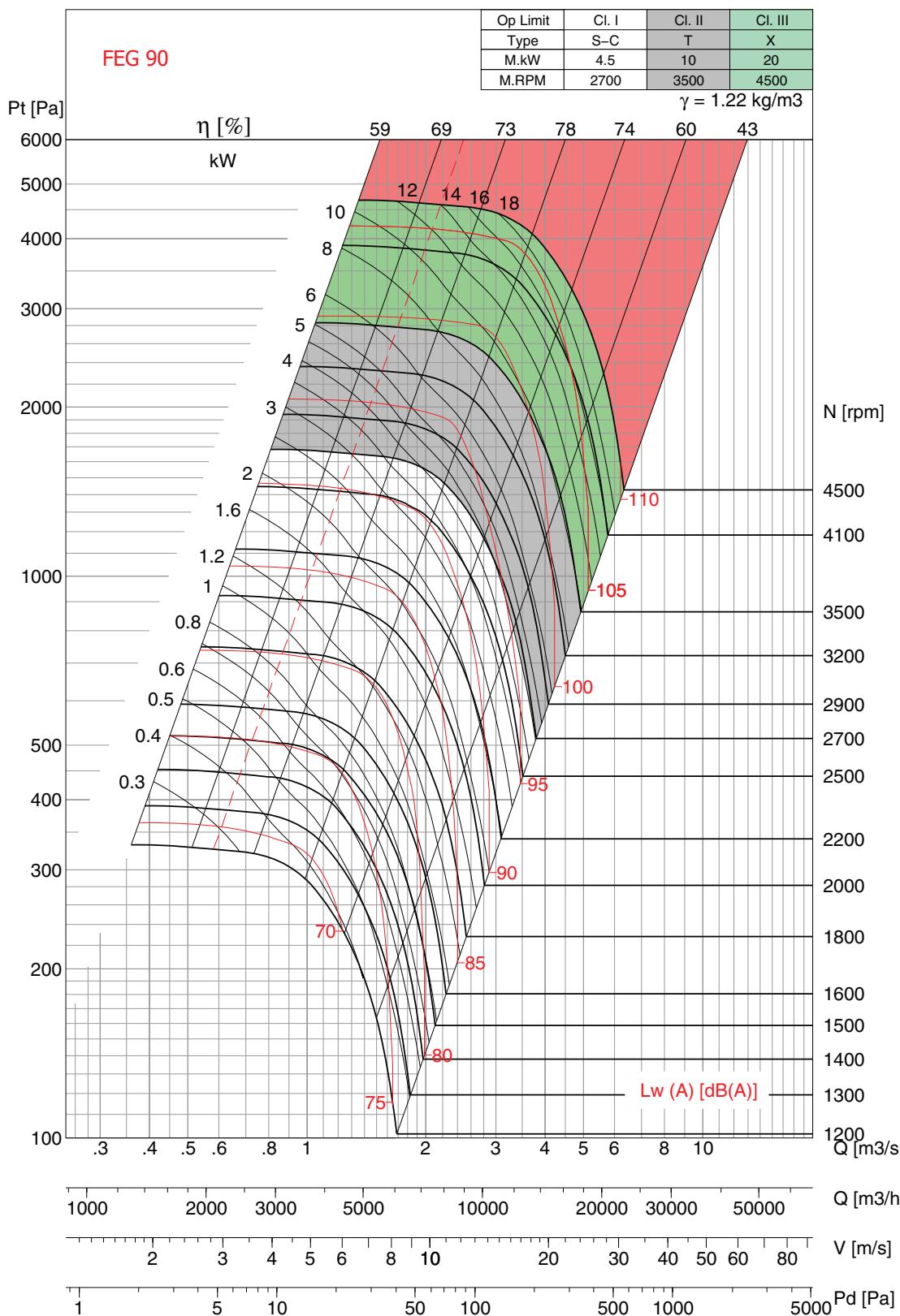


ADA 315



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_w(A)$ sound power levels for installation type B - free inlet, ducted outlet.

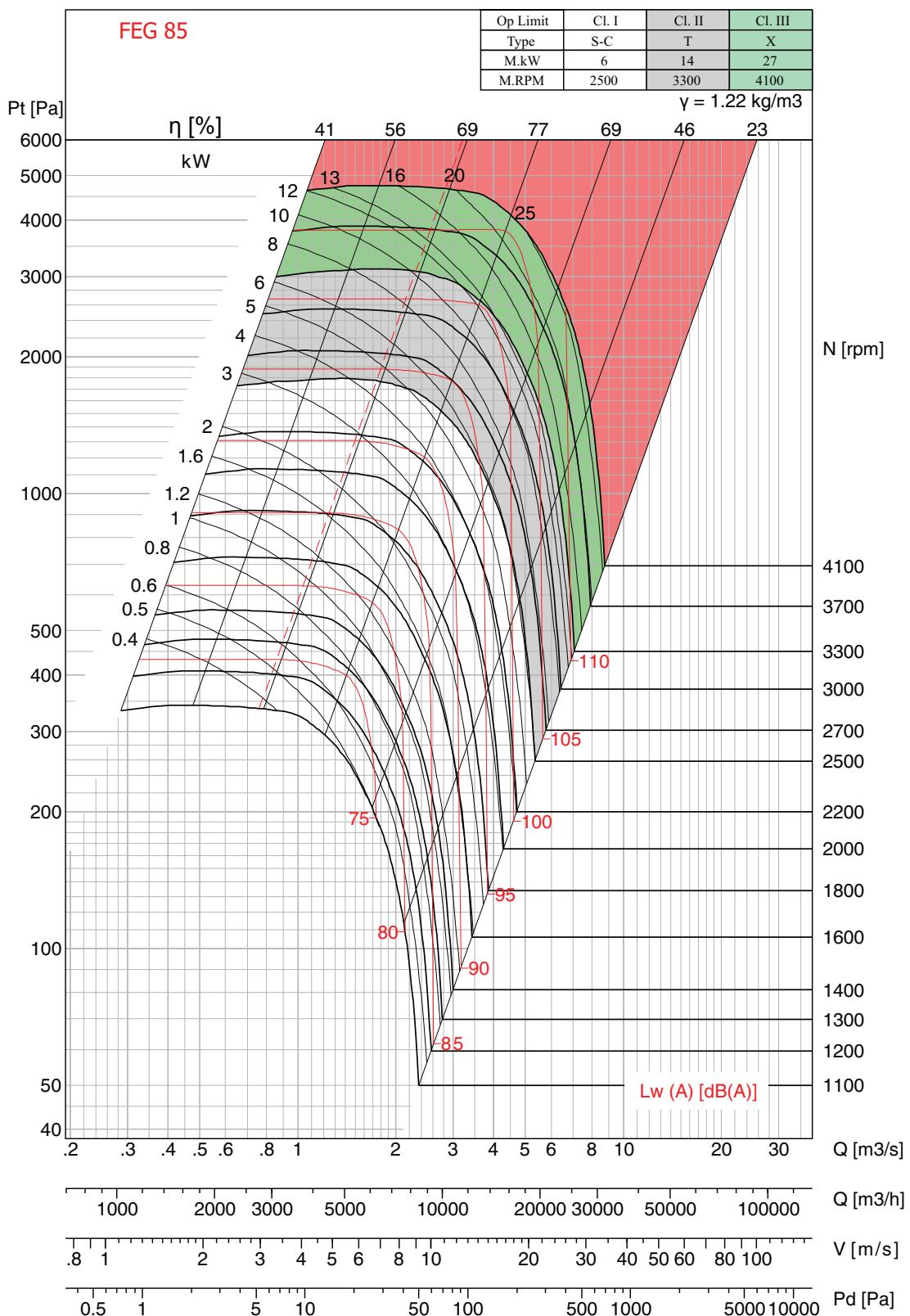
ADA 355



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

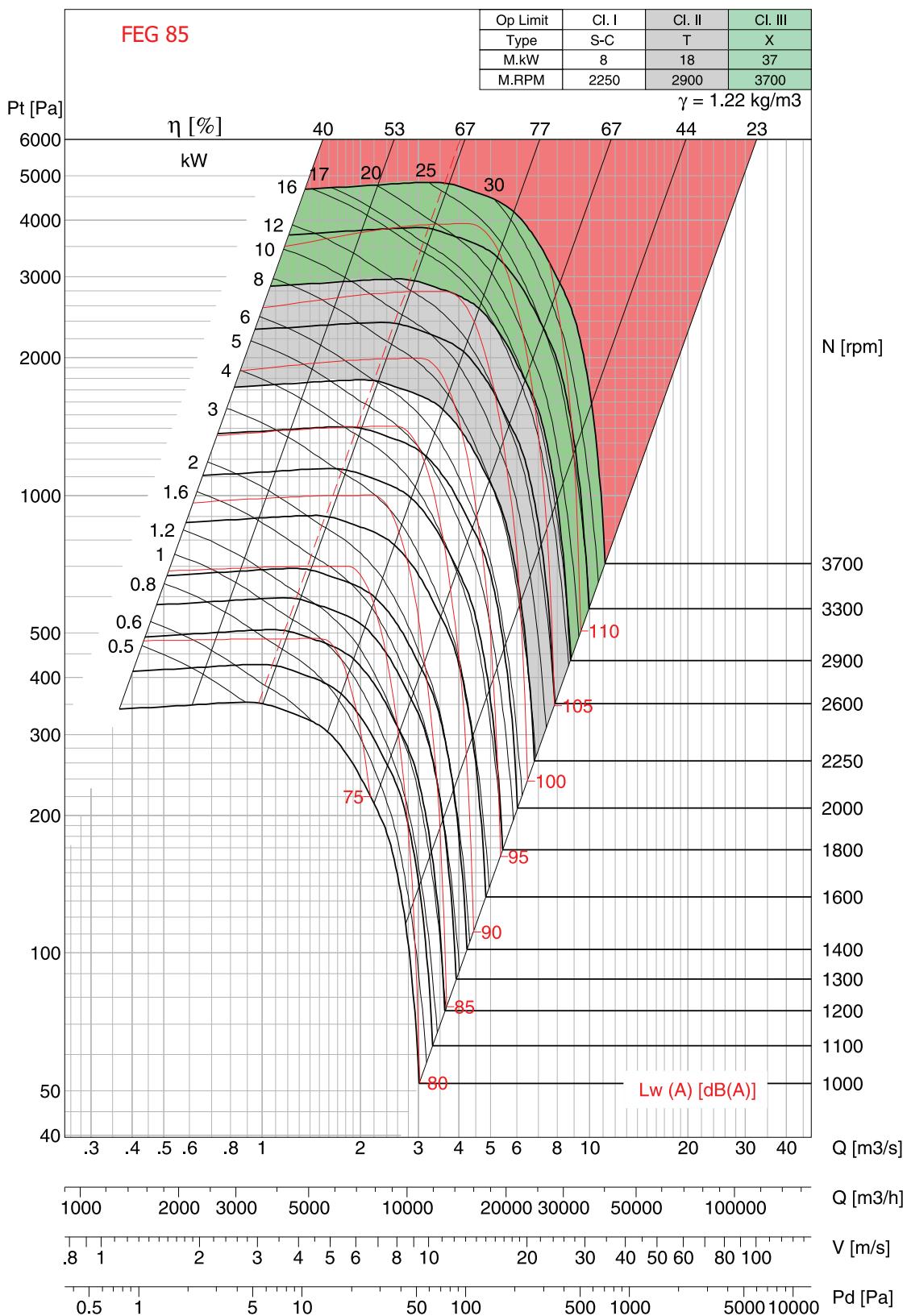
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

ADA 400



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_w(A)$ sound power levels for installation type B - free inlet, ducted outlet.

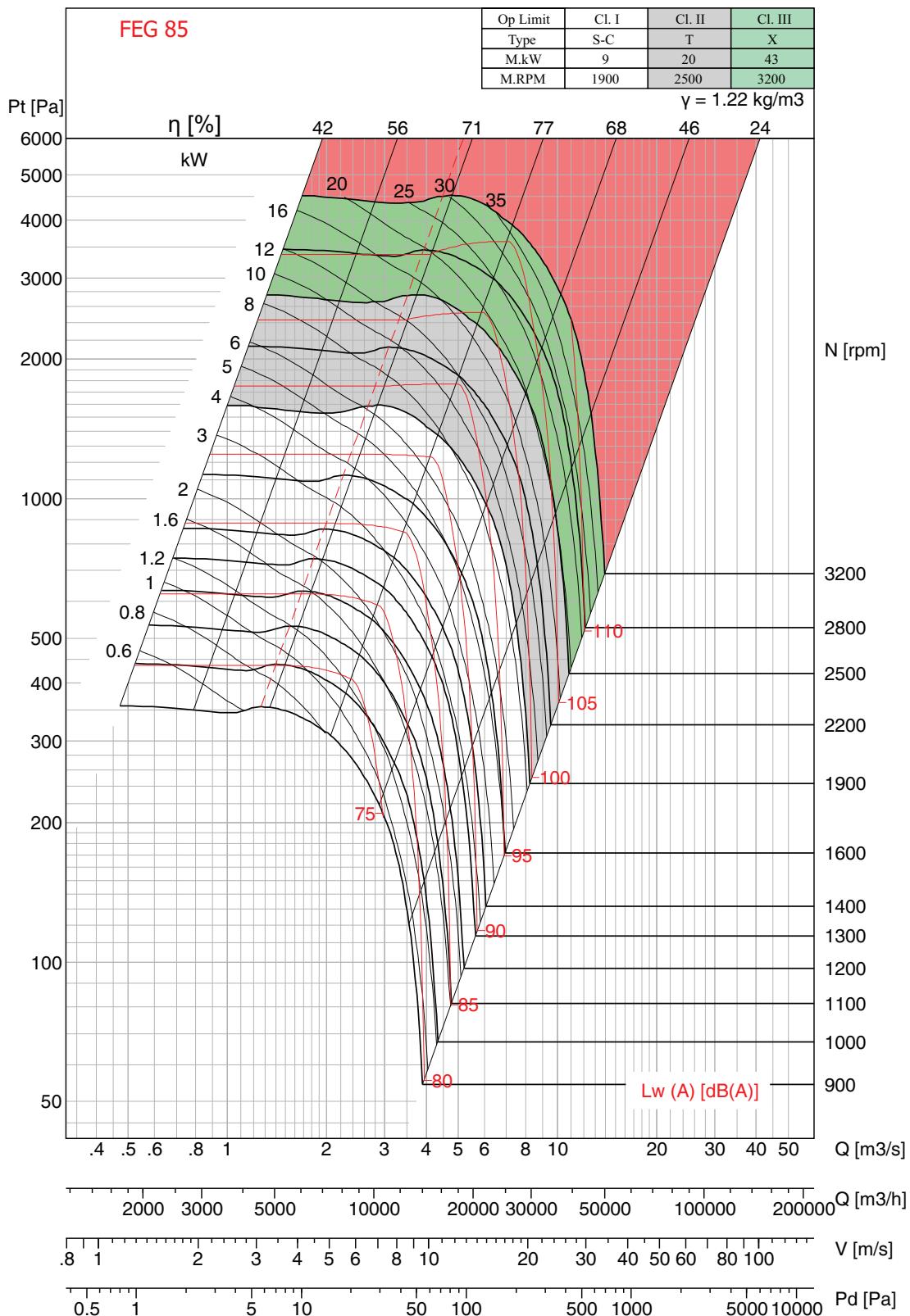
ADA 450



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

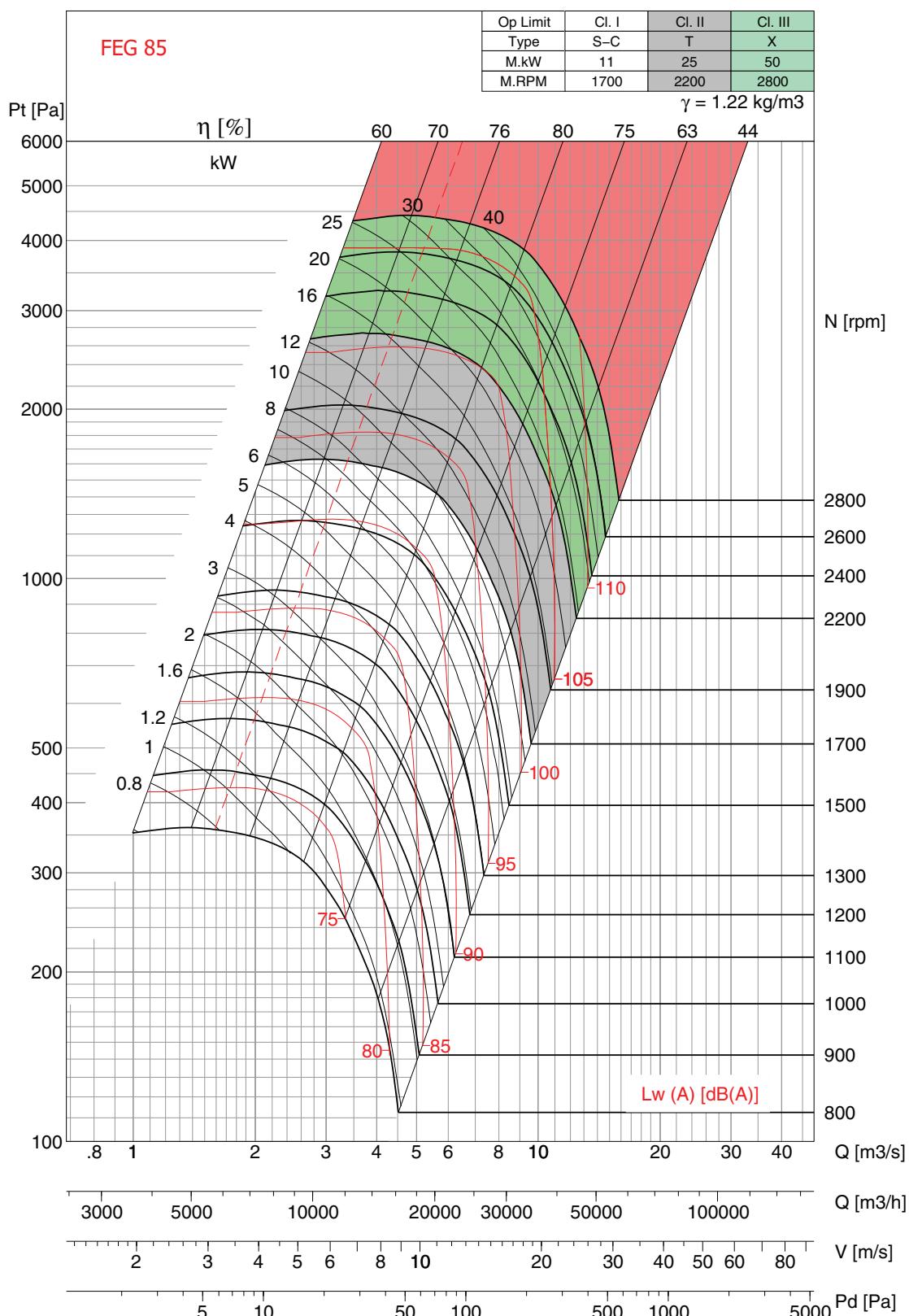
ADA 500



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet Lwi(A) sound power levels for installation type B - free inlet, ducted outlet.

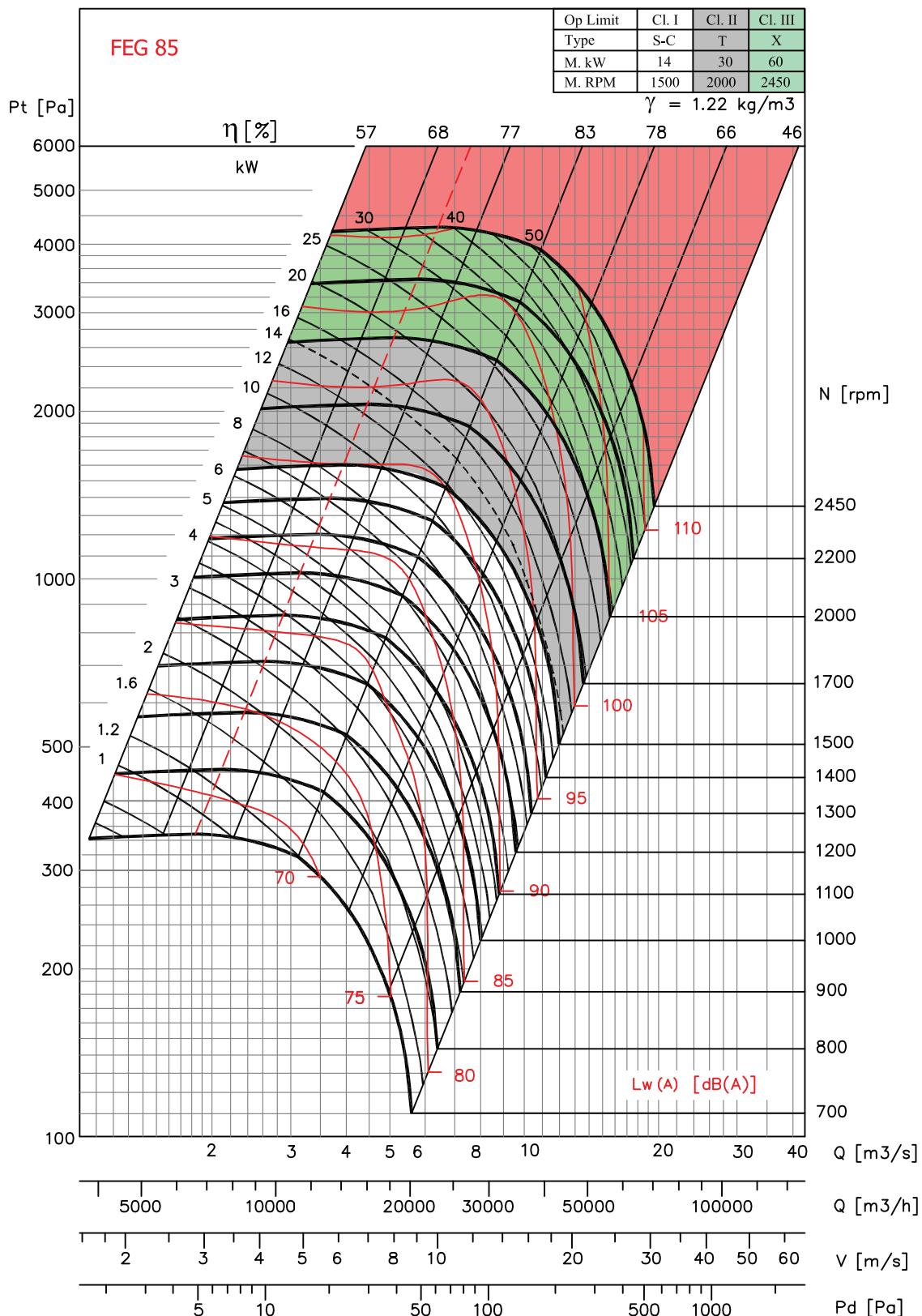
ADA 560



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

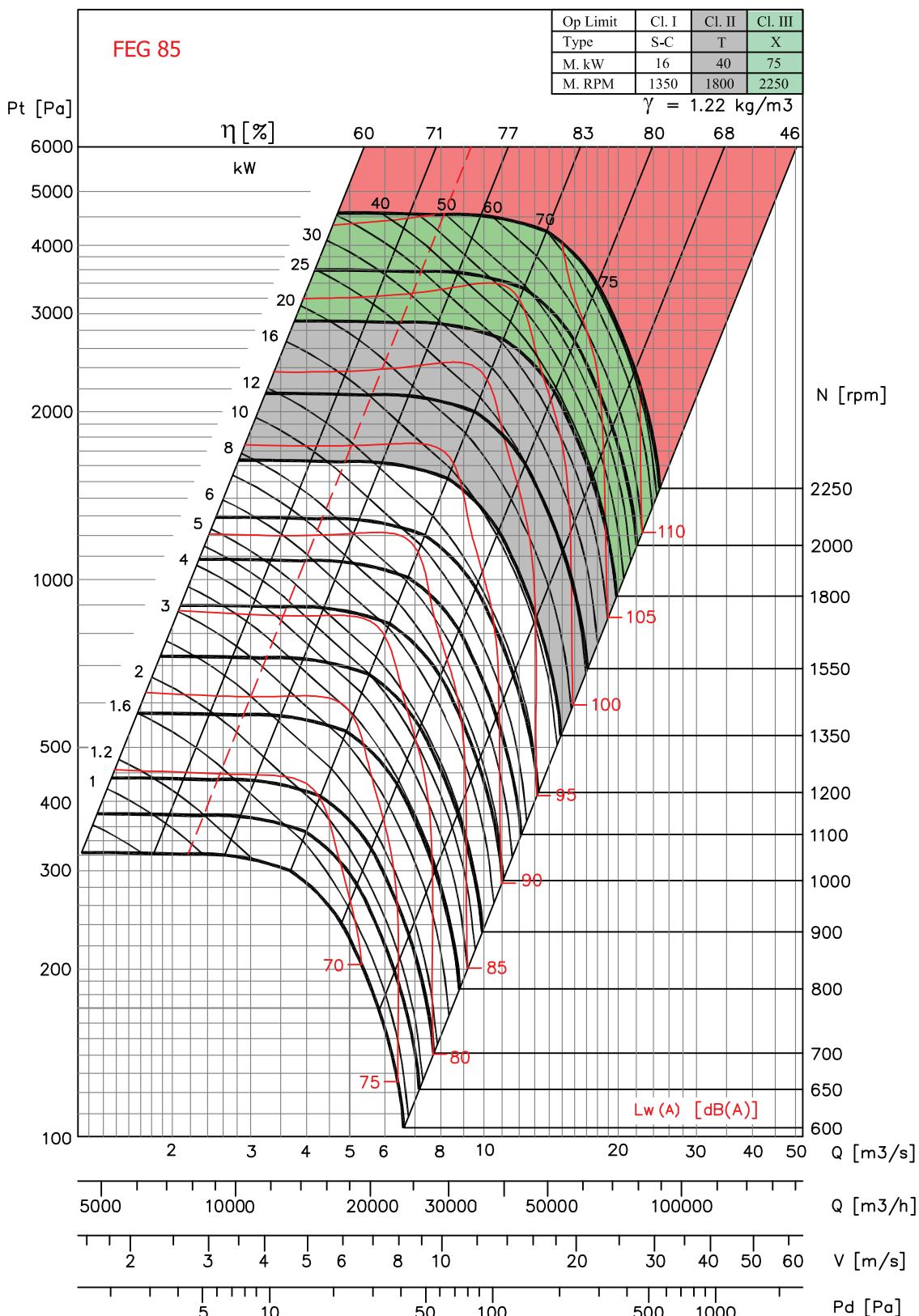
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

ADA 630



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.
 - The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{w(A)}$ sound power levels for installation type B - free inlet, ducted outlet.

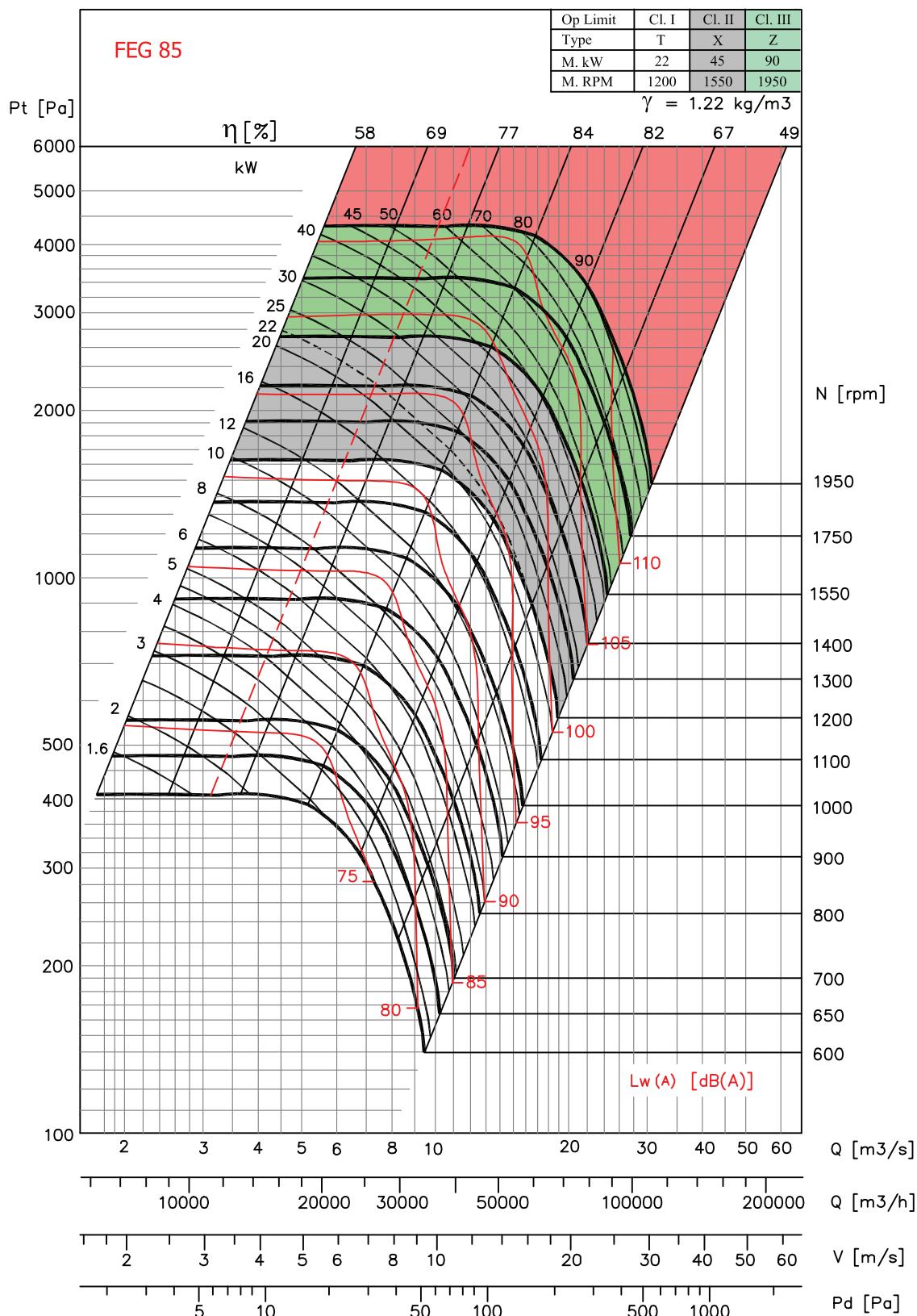
ADA 710



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

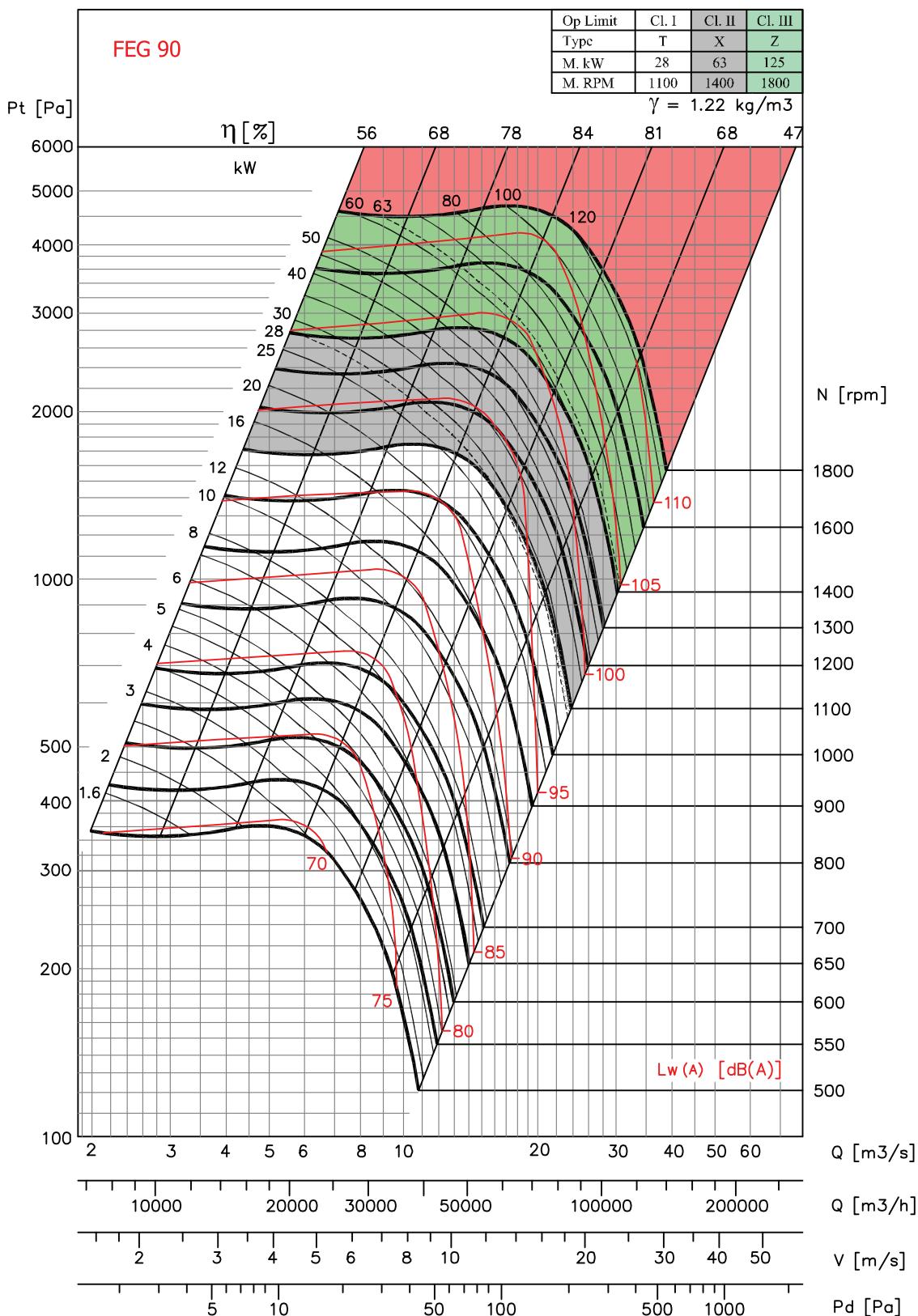
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

ADA 800



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

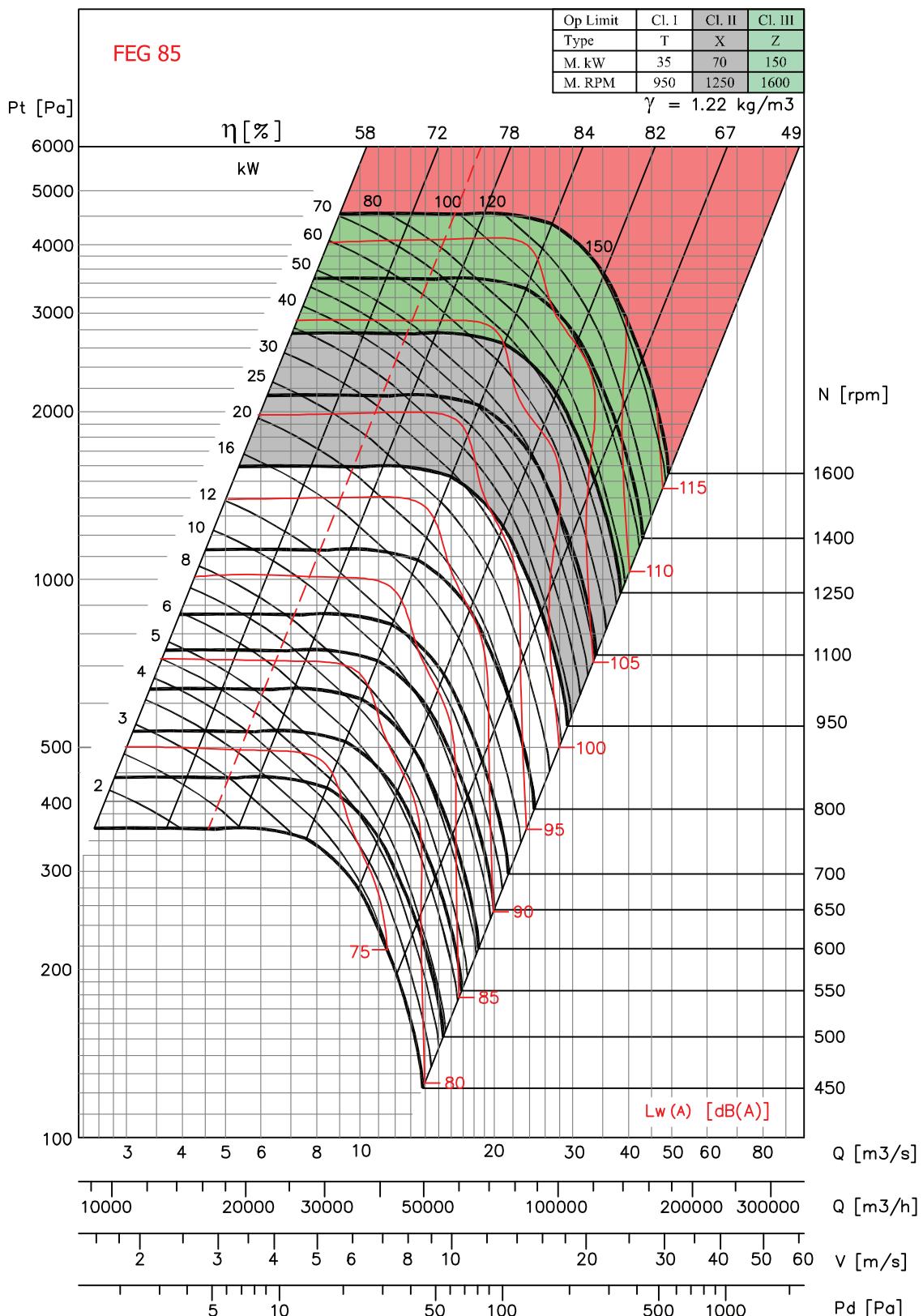
ADA 900



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

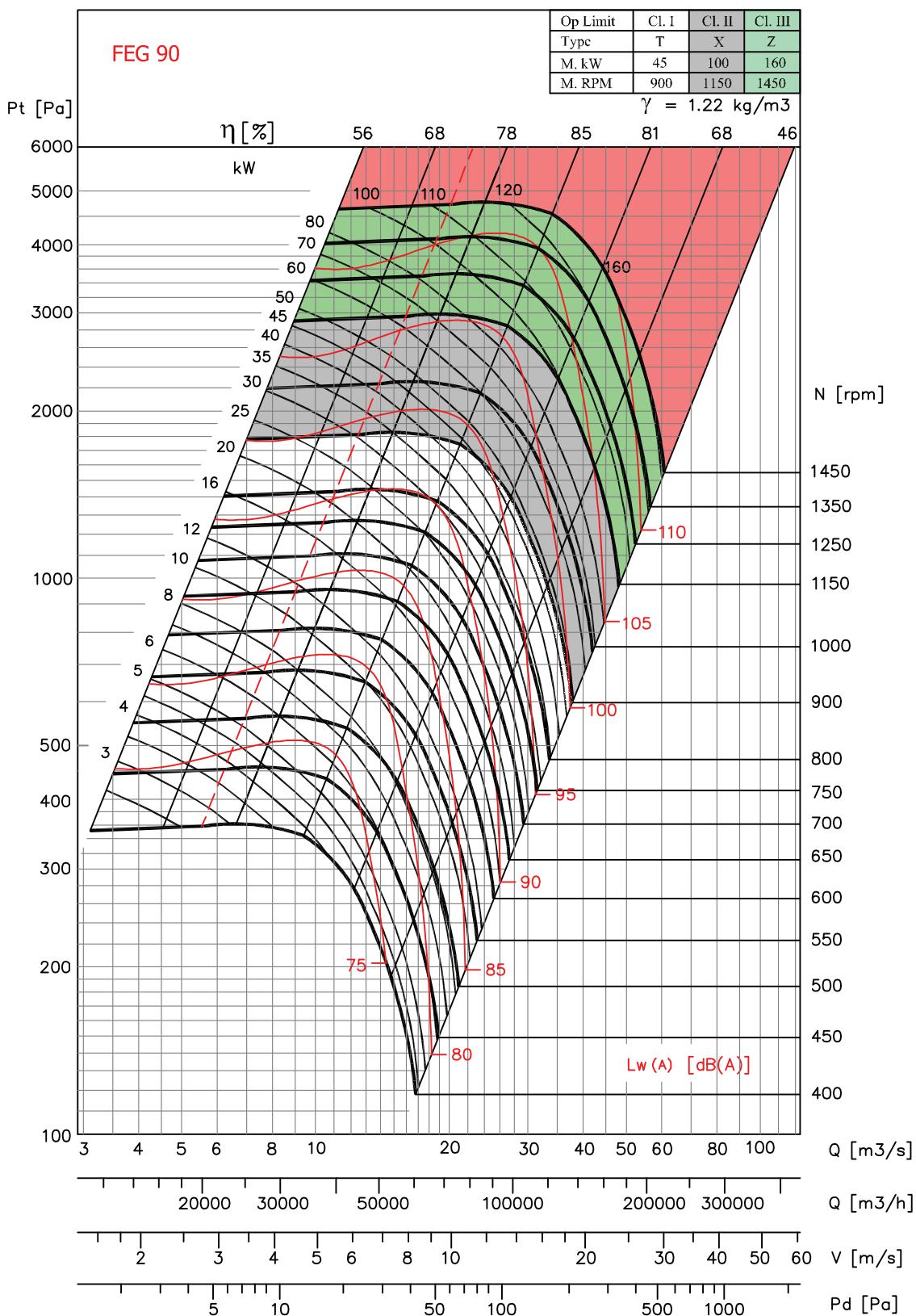
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

ADA 1000



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_w(A)$ sound power levels for installation type B - free inlet, ducted outlet.

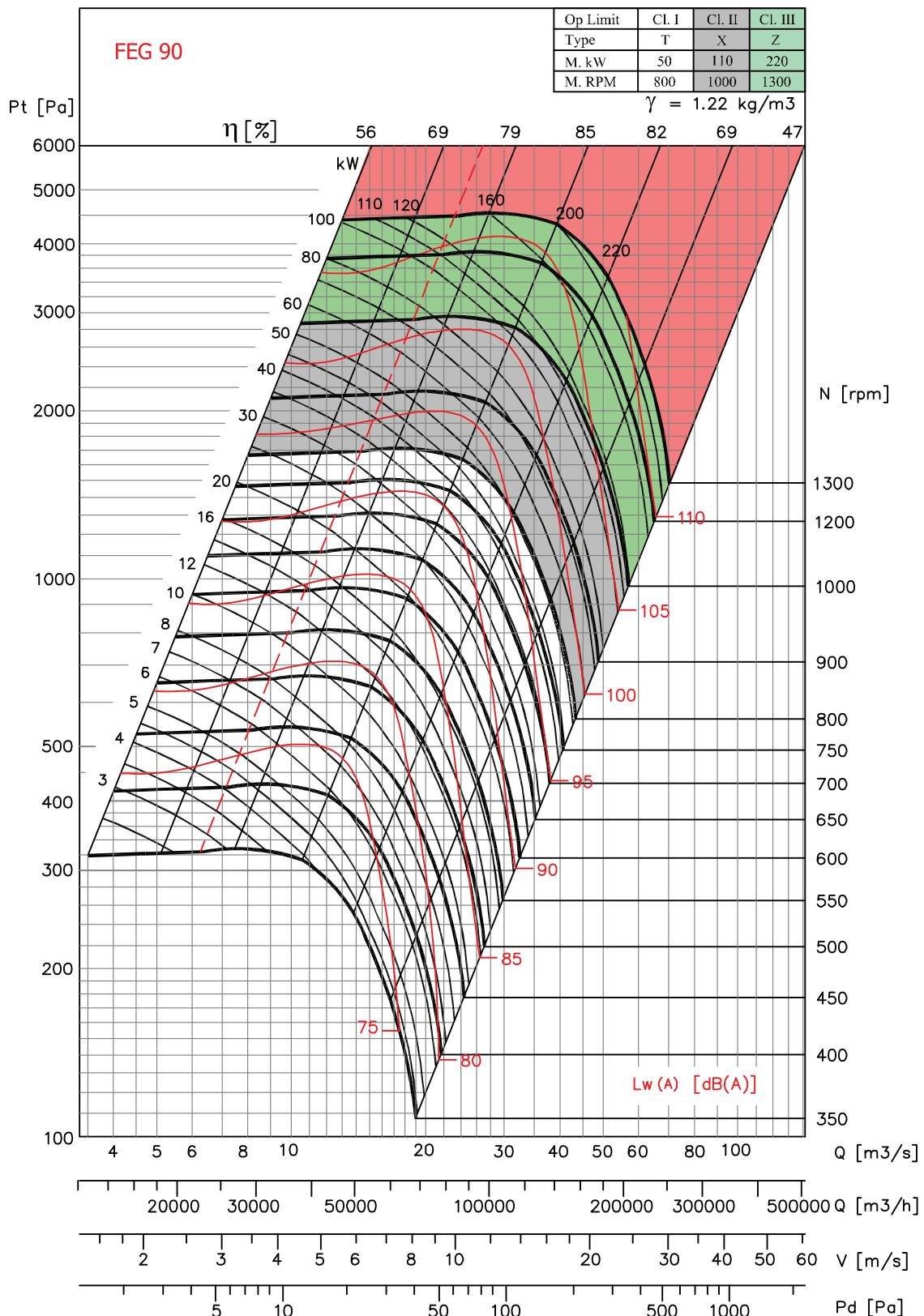
ADA 1120



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

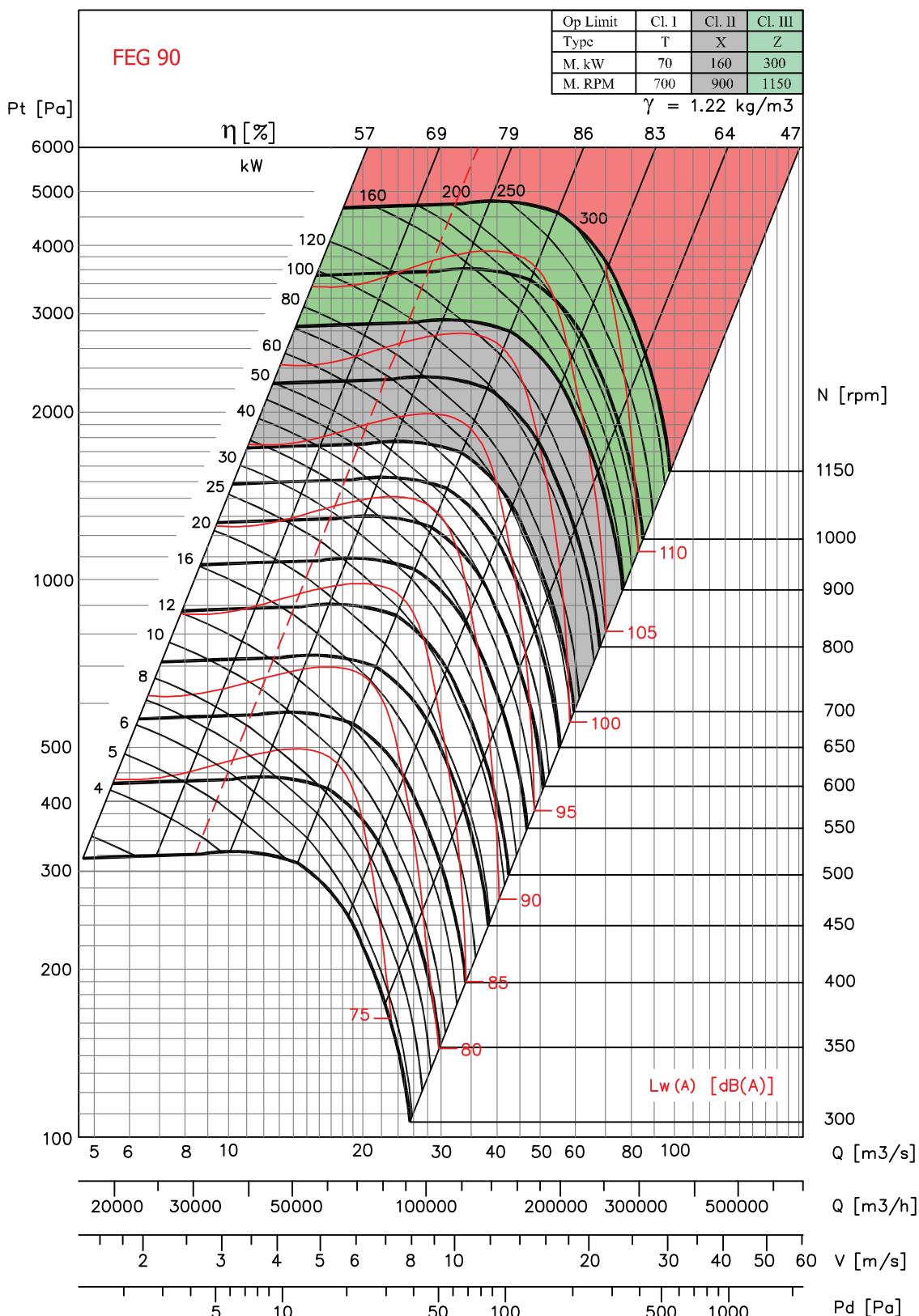
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

ADA 1250



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.
- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_w(A)$ sound power levels for installation type B - free inlet, ducted outlet.

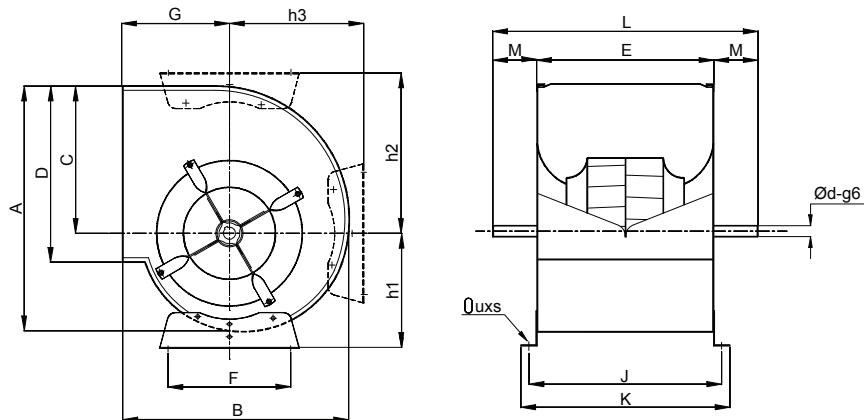
ADA 1400



- Performance certified is for installation type B - free inlet, ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating kW does not include transmission losses.

- The A-weighted sound ratings shown have been calculated per AMCA International standard 301. Values shown are for inlet $L_{wi}(A)$ sound power levels for installation type B - free inlet, ducted outlet.

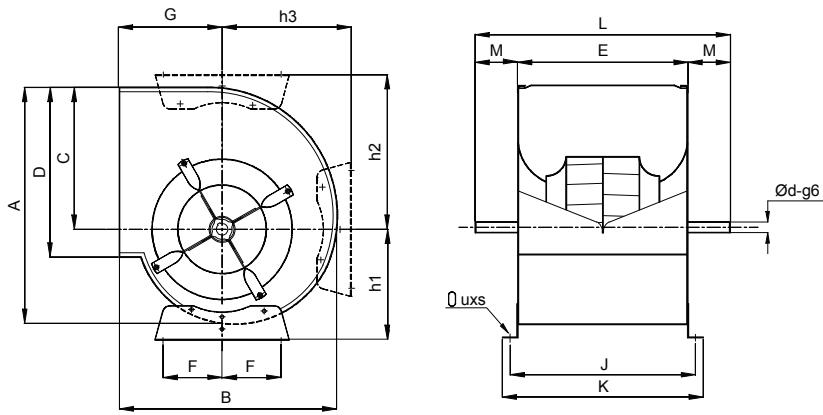
ADA 315-400 'S'



Model	A	B	C	D	E	F	G	J	K	L	M	h1	h2	h3	$\varnothing d$		uxs
															SL	SM	
315	572	516	340	404	404	280	236	434	464	600	98	261	370	283	25	25	11x16
355	644	576	383	452	452	315	260	492	532	672	110	274	411	320	30	30	11x16
400	724	644	432	506	506	355	290	546	586	726	110	302	462	359	30	30	11x16

All Dimensions in mm.

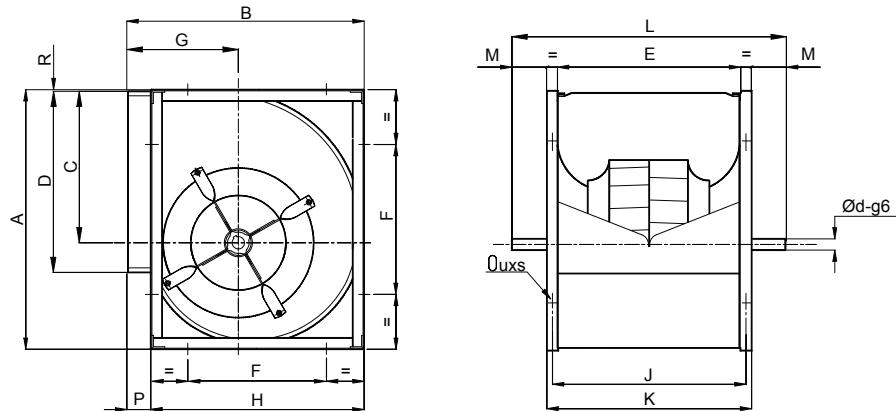
ADA 450-710 'S'



Model	A	B	C	D	E	F	G	J	K	L	M	h1	h2	h3	$\varnothing d$		uxs
															SL	SM	
450	816	722	486	568	568	200	322	608	648	814	123	336	518	407	35	35	13x18
500	906	794	538	638	638	225	352	678	718	924	143	375	568	448	35	35	13x18
560	1016	886	603	714	714	250	390	764	814	1000	143	416	634	502	40	40	13x18
630	1142	992	679	800	800	280	434	850	900	1092	146	468	707	571	40	45	13x18
710	1286	1114	765	898	898	315	484	948	998	1234	168	531	797	636	50	50	13x18

All Dimensions in mm.

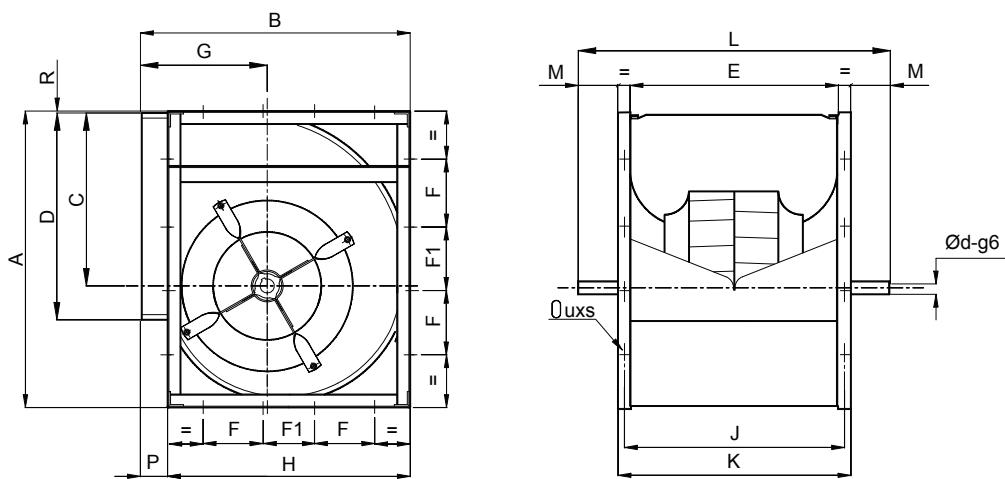
ADA 315-400 'C'



Model	A	B	C	D	E	F	G	H	J	K	L	M	P	R	$\varnothing d$		uxs
															CL	CM	
315	578	518	340	404	404	330	236	480	434	464	600	68	38	3	25	25	13x18
355	654	578	383	452	452	368	260	548	492	532	672	70	30	6	30	30	13x18
400	736	650	432	506	506	402	290	612	546	586	726	70	38	5	30	30	13x18

All Dimensions in mm.

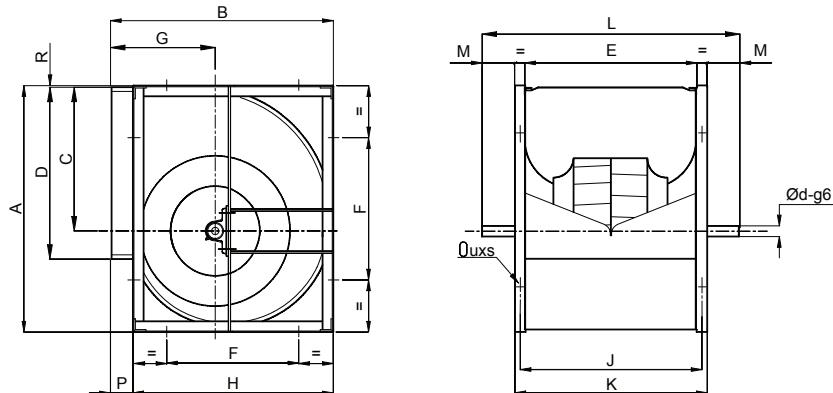
ADA 450-710 'C'



Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	P	R	$\varnothing d$		uxs
																CL	CM	
450	827	726	486	568	568	200	111	322	681	608	648	814	83	45	5	35	35	13x18
500	918	800	538	638	638	245	120	352	750	678	718	924	103	50	5	35	35	13x18
560	1030	892	603	714	714	280	125	390	844	764	814	1000	93	48	7	40	40	13x18
630	1157	998	679	800	800	328	110	434	945	850	900	1092	96	53	6	40	45	13x18
710	1302	1120	765	898	898	360	150	484	1057	948	998	1234	118	63	7	50	50	17x22

All Dimensions in mm.

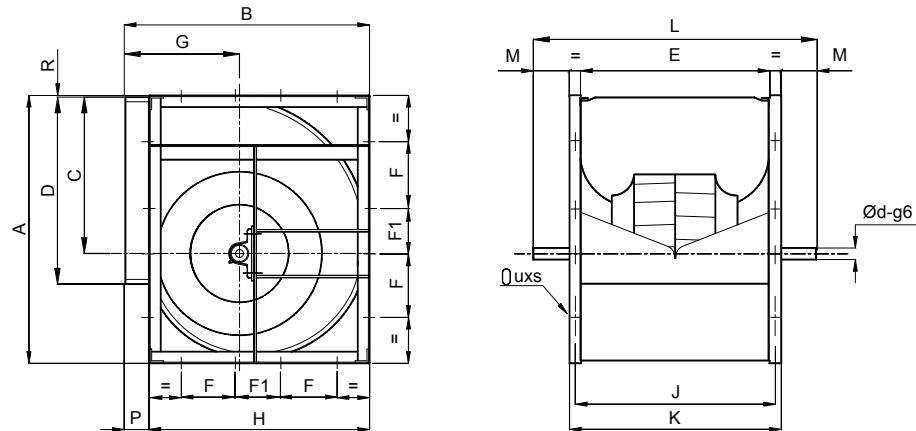
ADA 315-400 'T'



Model	A	B	C	D	E	F	G	H	J	K	L	M	P	R	$\varnothing d$		uxs
															TL	TM	
315	578	518	340	404	404	330	236	480	434	464	632	84	38	3	30	30	13x18
355	654	578	383	452	452	368	260	548	492	532	718	93	30	6	35	35	13x18
400	736	650	432	506	506	402	290	612	546	586	772	93	38	5	35	35	13x18

All Dimensions in mm.

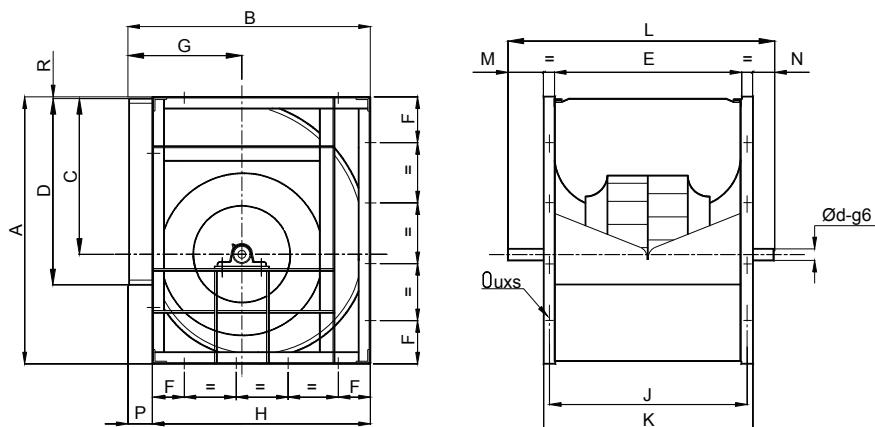
ADA 450-1000 'T'



Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	P	R	$\varnothing d$		uxs
																TL	TM	
450	827	726	486	568	568	200	111	322	681	608	648	878	115	45	5	40	40	13x18
500	918	800	538	638	638	245	120	352	750	678	718	956	119	50	5	40	45	13x18
560	1030	892	603	714	714	280	125	390	844	764	814	1080	133	48	7	45	45	13x18
630	1157	998	679	800	800	328	110	434	945	850	900	1166	133	53	6	50	50	13x18
710	1302	1120	765	898	898	360	150	484	1057	948	998	1280	141	63	7	50	55	17x22
800	1468	1254	862	1006	1006	405	171	540	1180	1056	1106	1388	141	74	7	55	55	17x22
900	1648	1408	971	1130	1130	455	189	604	1319	1180	1230	1566	168	89	7	60	60	17x22
1000	1810	1540	1066	1266	1266	500	200	656	1450	1316	1366	1724	179	90	9	60	70	17x22

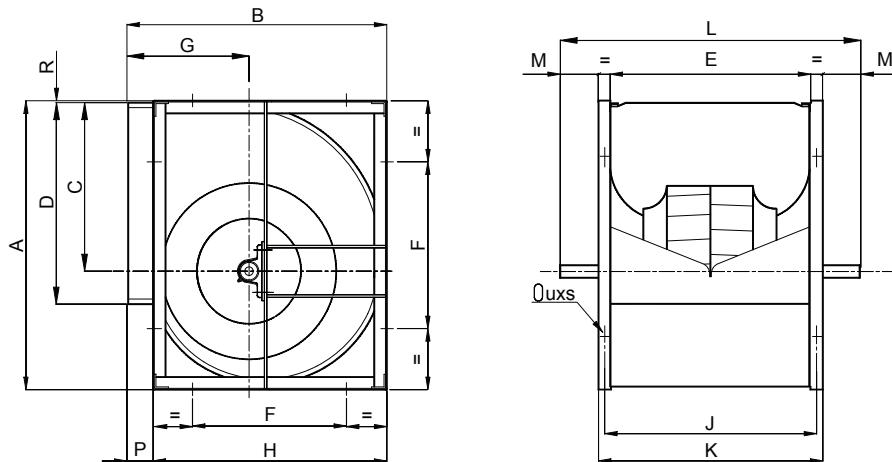
All Dimensions in mm.

ADA 1120-1400 'T'



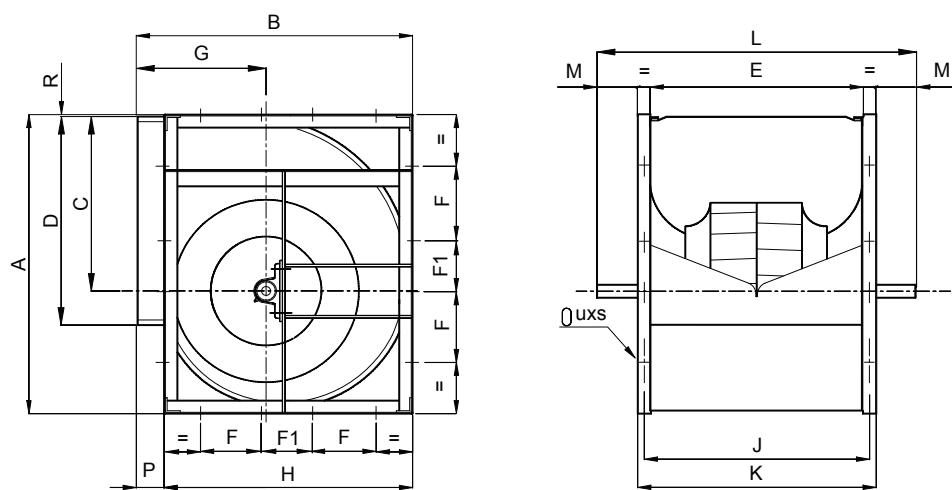
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	$\varnothing d$		uxs
																TL	TM	
1120	2033	1725	1200	1422	1422	290	748	1630	1482	1548	1800	193	59	95	9	-	75	17x22
1250	2285	1930	1353	1524	1524	300	830	1831	1599	1674	1975	220	81	99	9	-	80	17x22
1400	2568	2170	1515	1794	1794	310	963	2057	1869	1944	2260	227	89	113	13	-	80	17x22

All Dimensions in mm.

ADA 315-400 'XM'

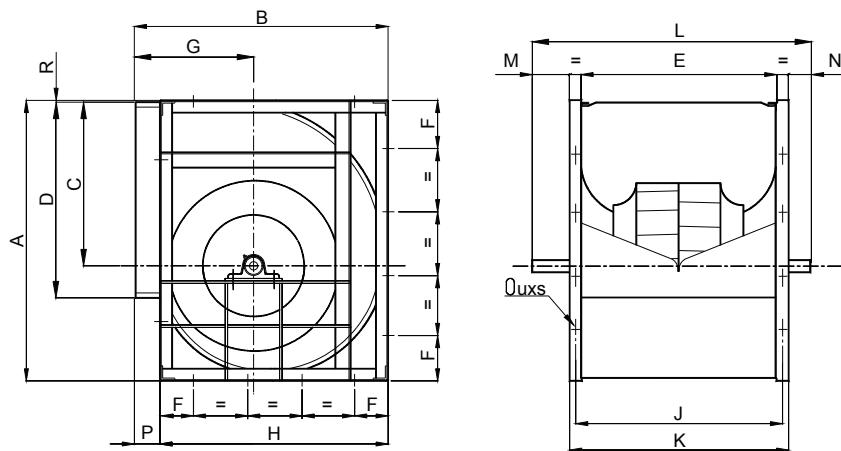
Model	A	B	C	D	E	F	G	H	J	K	L	M	P	R	Ød	uxs
315	578	518	340	404	404	330	236	480	434	464	732	134	38	3	35	13x18
355	654	578	383	452	452	368	260	548	492	532	822	145	30	6	40	13x18
400	736	650	432	506	506	402	290	612	546	586	876	145	38	5	40	13x18

All dimensions in mm.

ADA 450-1000 'XM'

Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	P	R	Ød	uxs
450	827	726	486	568	568	200	111	322	681	608	648	946	149	45	5	45	13x18
500	918	800	538	638	638	245	120	352	750	678	718	1066	174	50	5	50	13x18
560	1030	892	603	714	714	280	125	390	844	764	814	1138	162	48	7	55	13x18
630	1157	998	679	800	800	328	110	434	945	850	900	1286	193	53	6	60	13x18
710	1302	1120	765	898	898	360	150	484	1057	948	998	1390	196	63	7	65	17x22
800	1468	1254	862	1006	1006	405	171	540	1180	1056	1106	1498	196	74	7	65	17x22
900	1648	1408	971	1130	1130	455	189	604	1319	1180	1230	1660	215	89	7	70	17x22
1000	1810	1540	1066	1266	1266	500	200	656	1450	1316	1366	1845	239.5	90	9	80	17x22

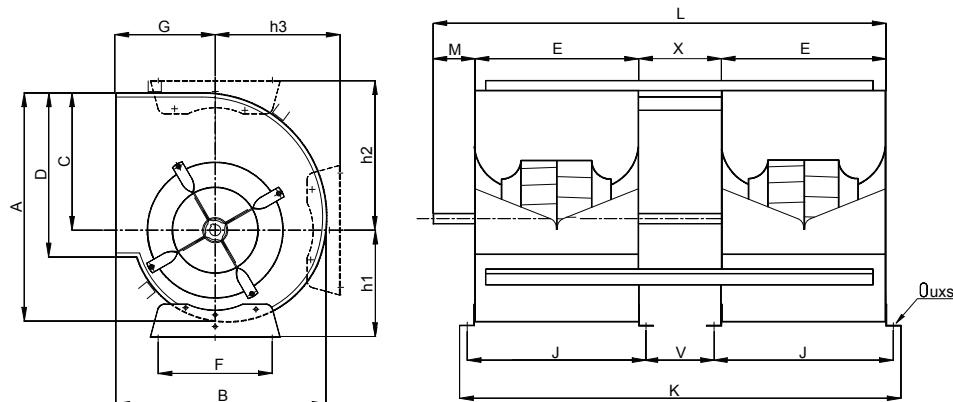
All dimensions in mm.

ADA 1120-1400 'XX'

Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	$\varnothing d$	uxs
1120	2033	1725	1200	1422	1422	290	748	1630	1482	1548	1916	266	102	95	9	80	17x22
1250	2285	1930	1353	1524	1524	300	830	1831	1599	1674	2035	265	96	99	9	85	17x22
1400	2568	2170	1515	1794	1794	310	963	2057	1869	1944	2295	256	95	113	13	90	17x22

All dimensions in mm.

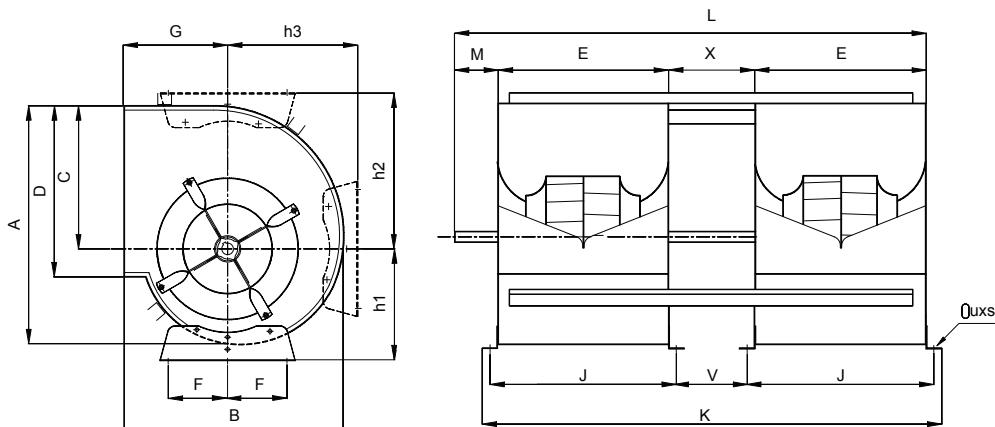
ADA 315-400 'S2M'



Model	A	B	C	D	E	F	G	J	K	L	M	X	V	h1	h2	h3	Ød	uxs
315	572	516	340	404	404	280	236	434	1183	1233	110	315	285	261	370	283	30 11x16	
355	644	576	383	452	452	315	260	492	1339	1389	130	355	315	274	411	320	35 11x16	
400	724	644	432	506	506	355	290	546	1492	1542	130	400	360	302	462	359	35 11x16	

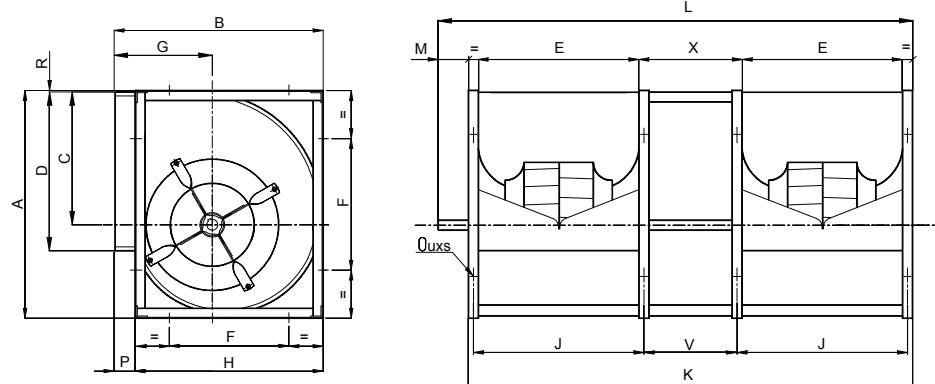
All Dimensions in mm.

ADA 450-500 'S2M'



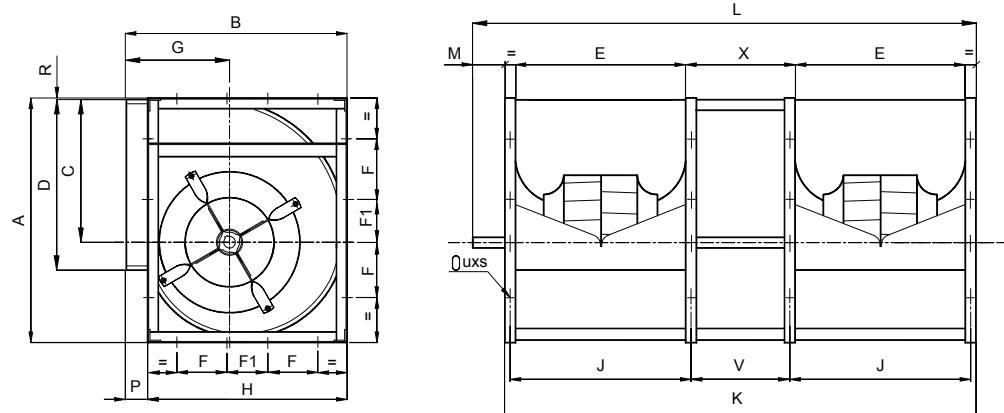
Model	A	B	C	D	E	F	G	J	K	L	M	X	V	h1	h2	h3	Ød	uxs
450	816	722	486	568	568	200	322	608	1666	1726	140	450	410	336	518	407	40 13x18	
500	906	794	538	638	638	225	352	678	1856	1916	140	500	460	375	568	448	40 13x18	

All Dimensions in mm.

ADA 315-400 'C2M'

Model	A	B	C	D	E	F	G	H	J	K	L	M	P	R	V	X	Ød	uxs
315	578	518	340	404	404	330	236	480	434	1183	1263	80	38	3	285	315	30	13x18
355	654	578	383	452	452	368	260	548	492	1339	1429	90	30	6	315	355	35	13x18
400	736	650	432	506	506	402	290	612	546	1492	1582	90	38	5	360	400	35	13x18

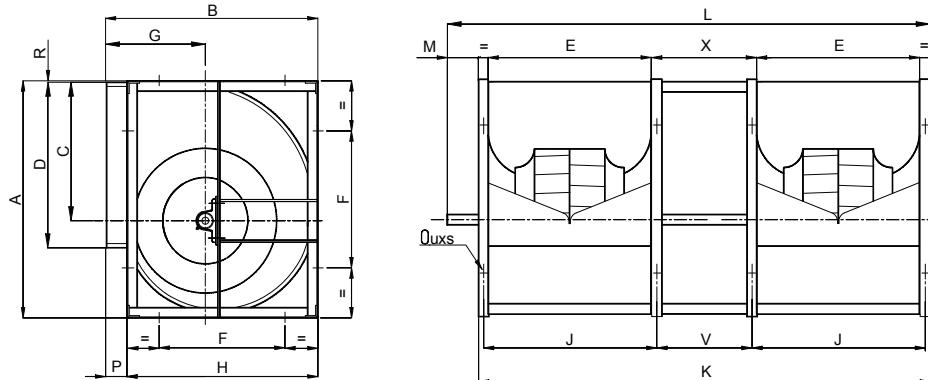
All Dimensions in mm.

ADA 450-500 'C2M'

Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	P	R	V	X	Ød	uxs
450	827	726	486	568	568	200	111	322	681	608	1666	1766	100	45	5	410	450	40	13x18
500	918	800	538	638	638	245	120	352	750	678	1856	1956	100	50	5	460	500	40	13x18

All Dimensions in mm.

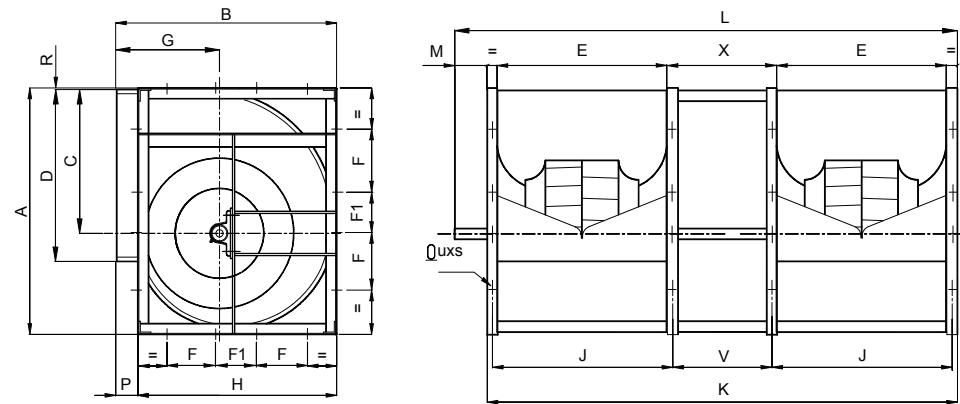
ADA 355-400 'T2M'



Model	A	B	C	D	E	F	G	H	J	K	L	M	X	P	R	V	$\emptyset d$	uxs
355	654	578	383	452	452	368	260	548	492	1339	1449	110	355	30	6	315	40	13x18
400	736	650	432	506	506	402	290	612	546	1492	1627	135	400	38	5	360	45	13x18

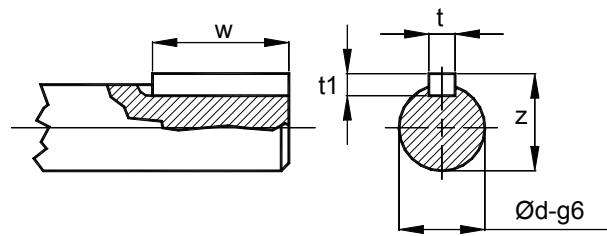
All Dimensions in mm.

ADA 450-630 'T2M'



Model	A	B	C	D	E	F	F1	G	H	J	K	L	M	P	R	V	$\emptyset d$	uxs	
450	827	726	486	568	568	200	111	322	681	608	1666	1801	135	45	5	410	450	50	13x18
500	918	800	538	638	638	245	120	352	750	678	1856	1991	135	50	5	460	500	55	13x18
560	1030	892	603	714	714	280	125	390	844	764	2088	2228	140	48	7	510	560	55	13x18
630	1157	998	679	800	800	328	110	434	945	850	2330	2470	140	53	6	580	630	60	13x18

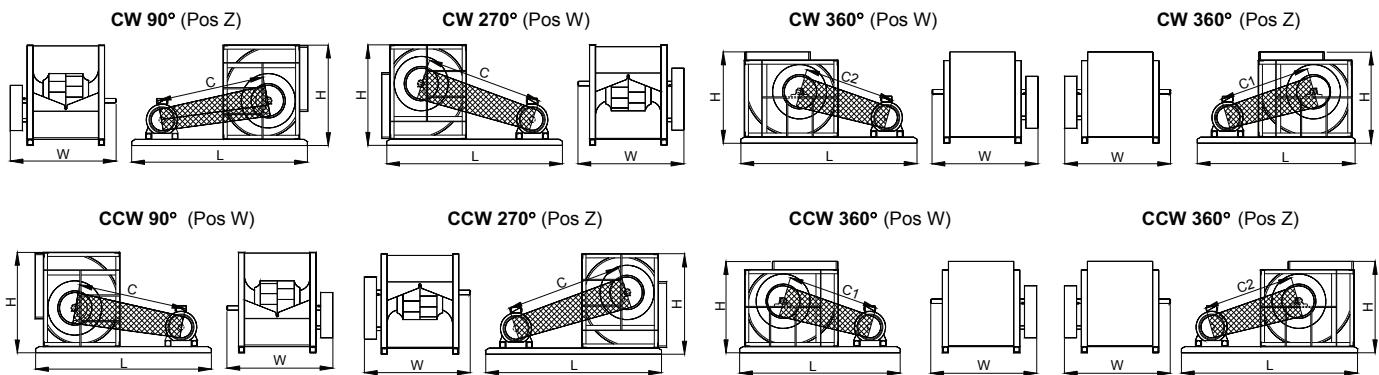
All Dimensions in mm.



$\varnothing d$	t	t1	w	z
25	8	7	40	28
30	8	7	40	33
35	10	8	50	38
40	12	8	70	43
45	14	9	70	48.5
50	14	9	90	53.5
55	16	10	90	59
60	18	11	90	64
70	20	12	110	74.5
75	20	12	110	79.9
80	22	14	110	85
85	22	14	110	90
90	25	14	140	95

All Dimensions in mm.

OVERALL DIMENSION - ADA "T" SERIES

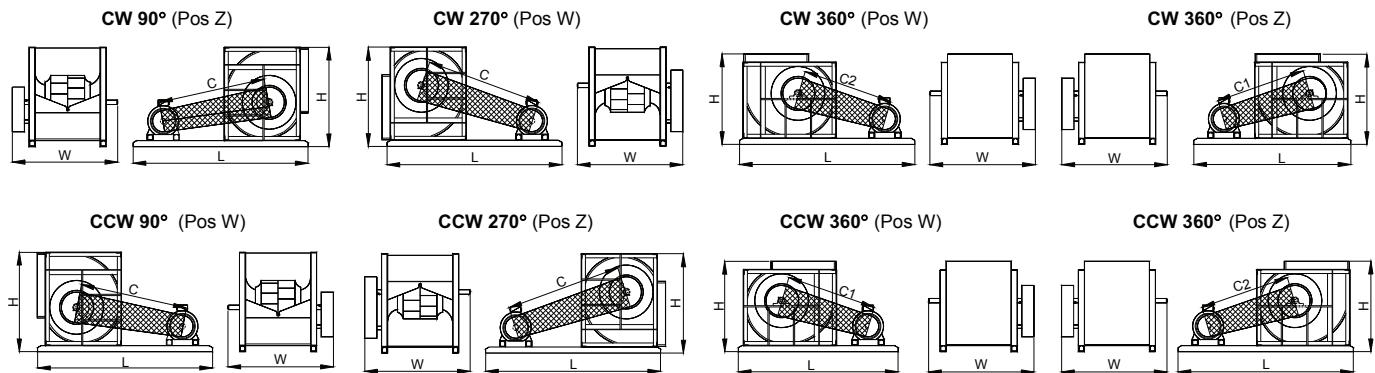


Model	Motor Frame Size	90° / 270°					360°					
		C (90°)	C (270°)	L	W	H	* Wt (kg)	C1	C2	L	H	* Wt (kg)
1000	132	1305	1475	2000	1754	1890	505	1532	1236	2350	1754	1620
	160	1361	1518	2100	1754	1890	507	1586	1282	2450	1754	1620
	180	1429	1575	2200	1754	1890	508	1651	1343	2550	1754	1620
	200	1451	1591	2250	1754	1890	508	1719	1405	2650	1754	1620
	225	1515	1644	2350	1754	1890	510	1781	1463	2750	1754	1620
	250	1581	1700	2450	1754	1890	511	1844	1523	2850	1754	1620
1120	132	1423	1615	2150	1830	2158	771	1695	1356	2550	1830	1850
	160	1479	1658	2250	1830	2158	774	1749	1403	2650	1830	1850
	180	1547	1715	2350	1830	2158	776	1815	1464	2750	1830	1850
	200	1568	1730	2400	1830	2158	778	1883	1527	2850	1830	1850
	225	1632	1783	2500	1830	2158	780	1945	1585	2950	1830	1850
	250	1697	1837	2600	1830	2158	783	2008	1645	3050	1830	1850
	280	1806	1932	2750	1830	2158	787	2067	1700	3150	1830	1850
1250	132	1564	1790	2350	2005	2435	1167	1873	1491	2800	2005	2080
	160	1619	1831	2450	2005	2435	1172	1926	1537	2900	2005	2080
	180	1687	1886	2550	2005	2435	1177	1992	1596	3000	2005	2080
	200	1708	1901	2600	2005	2435	1179	2058	1657	3100	2005	2080
	225	1771	1952	2700	2005	2435	1184	2120	1714	3200	2005	2080
	250	1835	2005	2800	2005	2435	1189	2182	1772	3300	2005	2080
	280	1943	2097	2950	2005	2435	1196	2240	1825	3400	2005	2080
1400	160	1786	2035	2700	2290	2718	1593	2137	1707	3200	2290	2320
	180	1852	2088	2800	2290	2718	1598	2202	1765	3300	2290	2320
	200	1872	2101	2850	2290	2718	1600	2222	1782	3350	2290	2320
	225	1933	2150	2950	2290	2718	1605	2282	1836	3450	2290	2320
	250	1995	2201	3050	2290	2718	1610	2343	1893	3550	2290	2320
	280	2053	2247	3150	2290	2718	1615	2447	1990	3700	2290	2320
	315	2153	2331	3300	2290	2718	1622	2498	2037	3800	2290	2320

* The above weight does not include motor and drive unit as these will vary with supplier.

All Dimensions in mm.

OVERALL DIMENSION - ADA "X" SERIES



Model	Motor Frame Size	90° / 270°						360°					
		C (90°)	C (270°)	L	W	H	* Wt (kg)	C1	C2	L	W	H	* Wt (kg)
1120	225	1680	1827	2550	1946	2158	854	1945	1585	2950	1946	1850	864
	250	1746	1882	2650	1946	2158	856	2008	1645	3050	1946	1850	867
	280	1806	1932	2750	1946	2158	859	2067	1700	3150	1946	1850	870
	315	1911	2024	2900	1946	2158	863	2169	1798	3300	1946	1850	874
	355	2012	2112	3050	1946	2158	867	2266	1892	3450	1946	1850	878
1250	225	1819	1995	2750	2065	2435	1286	2120	1714	3200	2065	2080	1308
	250	1883	2049	2850	2065	2435	1291	2182	1772	3300	2065	2080	1313
	280	1943	2097	2950	2065	2435	1296	2240	1825	3400	2065	2080	1318
	315	2046	2186	3100	2065	2435	1303	2340	1921	3550	2065	2080	1325
	355	2145	2272	3250	2065	2435	1310	2436	2013	3700	2065	2080	1332
1400	250	1995	2201	3040	2325	2718	1684	2390	1938	3600	2325	2320	1710
	280	2053	2247	3150	2325	2718	1689	2447	1990	3700	2325	2320	1715
	315	2153	2331	3300	2325	2718	1696	2546	2084	3850	2325	2320	1722
	355	2250	2413	3450	2325	2718	1703	2640	2173	4000	2325	2320	1729

* The above weight does not include motor and drive unit as these will vary with supplier.

All Dimensions in mm.

Centrifugal Fan Ordering Information

Fan Details			
■ Fan type	<input type="checkbox"/> DIDW <input type="checkbox"/> SISW		
■ Impeller type	<input type="checkbox"/> Forward Curved <input type="checkbox"/> Backward Curved <input type="checkbox"/> Others : _____ (Please State)		
■ Model & size e.g. ADA 560 C	<input type="checkbox"/> Model : _____ (If known)		
■ Drive type - belt, direct, coupling (if differ from standard)	<input type="checkbox"/> Belt <input type="checkbox"/> Direct <input type="checkbox"/> Coupling <input type="checkbox"/> Others : _____ (Please State)		
■ Arrangement (1 & 3 for bare shaft fan; 4, 8 & 12 for complete with drive system)	<input type="checkbox"/> Bare fan <input type="checkbox"/> Complete with drive system		
■ Rotation & Discharge e.g. CCW 270	<input type="checkbox"/> CW <input type="checkbox"/> CCW <input type="checkbox"/> 90 <input type="checkbox"/> 180 <input type="checkbox"/> 270 <input type="checkbox"/> 360		
■ Motor position (refer to diagram) e.g. W	<input type="checkbox"/> W <input type="checkbox"/> X <input type="checkbox"/> Y <input type="checkbox"/> Z		
■ Air Flow Rate	Q : _____ <input type="checkbox"/> L/S <input type="checkbox"/> m³/h <input type="checkbox"/> m³/min <input type="checkbox"/> m³/s <input type="checkbox"/> cfm		
■ Pressure (static & total)	SP : _____ TP : _____ <input type="checkbox"/> Pa <input type="checkbox"/> mmH ₂ O <input type="checkbox"/> inWG		
■ Fan RPM (if specified)	Max. : _____ Min. : _____		
■ Noise level	<input type="checkbox"/> dB <input type="checkbox"/> dBA Lw : _____ Lp : _____ at Distance : _____ m <input type="checkbox"/> free field <input type="checkbox"/> room condition <input type="checkbox"/> corner / wall		
■ Ambient temperature	<input type="checkbox"/> Temp. : _____ °C		
■ Air density, if differ from standard	<input type="checkbox"/> Density : _____ kg/m³ <input type="checkbox"/> Altitude : _____ m		
Motor Details		Fittings Detail	
■ Power	<input type="checkbox"/> kW : _____ <input type="checkbox"/> HP : _____	■ Accessories	<input type="checkbox"/> Inspection door <input type="checkbox"/> Drain plug <input type="checkbox"/> Flexible duct <input type="checkbox"/> Inlet vane control
■ No. of Poles / RPM	<input type="checkbox"/> 2P <input type="checkbox"/> 4P <input type="checkbox"/> 6P <input type="checkbox"/> 8P <input type="checkbox"/> Others : _____ (pls state RPM)		<input type="checkbox"/> Vibration Isolators: <input type="checkbox"/> Rubber <input type="checkbox"/> Spring <input type="checkbox"/> Floor-mount <input type="checkbox"/> Ceiling-hang
■ Voltage	<input type="checkbox"/> 220V <input type="checkbox"/> 415V <input type="checkbox"/> 380V <input type="checkbox"/> 440V <input type="checkbox"/> 400V <input type="checkbox"/> Others : _____		<input type="checkbox"/> Silencers: <input type="checkbox"/> With pod <input type="checkbox"/> Without pod <input type="checkbox"/> Inlet <input type="checkbox"/> Outlet <input type="checkbox"/> Both inlet & outlet
■ Phase	<input type="checkbox"/> 1φ <input type="checkbox"/> 3φ		<input type="checkbox"/> Counter-flanges: <input type="checkbox"/> Flat <input type="checkbox"/> L-type <input type="checkbox"/> U-type <input type="checkbox"/> Inlet <input type="checkbox"/> Outlet
■ Frequency	<input type="checkbox"/> 50 Hz <input type="checkbox"/> 60 Hz	Special Features	
■ Frame size	<input type="checkbox"/> IEC : _____ <input type="checkbox"/> NEMA : _____ <input type="checkbox"/> Others : _____	■ Other Requirements	<input type="checkbox"/> Painting <input type="checkbox"/> Powder coating <input type="checkbox"/> Hot-dipped galvanizing
■ Make, if specified	<input type="checkbox"/> Brand : _____ <input type="checkbox"/> Mfr. : _____ <input type="checkbox"/> Country : _____		<input type="checkbox"/> Spark-resistant <input type="checkbox"/> Corrosion-resistant <input type="checkbox"/> Heat-resistant, temp. _____ °C <input type="checkbox"/> Smoke Spill, Max. temp. _____ °C for _____ Hr

KRUGER Ventilation Group

THAILAND (Regional Head Quarter)

KRUGER VENTILATION INDUSTRIES ASIA CO. LTD.
30/159 Moo 1, Sinsakorn Industrial Estate, Chetsadawithi Road,
Khok Kham Mueng, Samutthasakorn 74000, Thailand
Tel: +662 1054298 Fax: +662 0248256-9
Website: www.krugergroup.com

THAILAND

KRUGER VENTILATION IND. (THAILAND) CO. LTD.
30/105 Moo 1, Sinsakorn Industrial Estate, Chetsadawithi Road,
Khok Kham Mueng, Samutthasakorn 74000, Thailand
Tel: +662 1050399 Fax: +662 1050370-2
Email: mktg@kruger.co.th

INDIA

KRUGER VENTILATION INDUSTRIES (INDIA) PVT. LTD.
Kruger Centre, Mumbai-Nasik Highway, Kalamgaon, Shahapur,
Thane 421601, Maharashtra, India
Tel: +91 9960558899/9975577211
Email: sales@krugerindia.com

INDIA (NORTH)

KRUGER VENTILATION INDUSTRIES (INDIA) PVT. LTD.
Khasra No. 150//20/2/1, 21/1/2, 22/2, 151//16/2/2, Village Rohad,
Tehsil Bahadurgarh, Jhajjar, Haryana-124507, India
Tel. +91-9958991652/9958991660/8586966303
Fax +91-1276-278096
Email: sales.kni@krugerindia.com , service@krugerindia.com

KOREA

NEOMATE CO. LTD.
2-1010, Ace High Tech City B/D, 775 Gyeongin-ro,
Yeongdeungpo-gu, Seoul, Korea. Postal Code 07299
Tel: +82-2-2679-2052 Fax: +82-2-2679-2174
Email: y7890@neomate.co.kr

SINGAPORE

KRUGER ENGINEERING PTE. LTD.
2 Venture Drive #20-23, Vision Exchange,
Singapore 608526.
Tel: +65 68631191 Fax: +65 68631151
Email: mktg@krugergroup.com

AUSTRALIA

S&P KRUGER AUSTRALIA PTY. LTD.
2 Cunningham St, Moorebank N.S.W. 2170
Tel: +61 2-98227747
Fax: +61 2-98227757
Email: info@sandpkruger.com.au

INDONESIA

P.T. KRUGER VENTILATION INDONESIA.
JL. Teuku Umar No.20,
Karawaci - Tangerang 15115, Indonesia
Tel: +62 21-5512288/5513557 Fax: +62 21-5513502
Email: mktg@krugergroup.co.id

VIETNAM

KRUGER VENTILATION INDUSTRIES (VIETNAM) CO. LTD.
Lot A7. 2-4, C2 Road, Thanh Thanh Cong IZ,
Trang Bang Dist. Tay Ninh Province, Vietnam
Tel: +84-276 3585200/01/02 Fax: +84-276 3585199
Email: mktg@krugervn.com

CHINA (GUANGZHOU)

GUANGZHOU KRUGER VENTILATION CO. LTD.
No. 9 Huahui Road, Huashan, Huadu,
Guangzhou, P.R. China 510880
Tel: +86 20-66356635 Fax: +86 20-86786001/86786500
Email: gzkruger@krugergz.com

CHINA (TIANJIN)

TIANJIN KRUGER VENTILATION CO. LTD.
Jingjin Science and Technology Park
Wuqing District, Tianjin, China
Tel: +86 22-22143480/3481 Fax: +86 22-22143482
Email: krugertj@krugertj.com

CHINA (SHANGHAI)

SHANGHAI KRUGER VENTILATION CO., LTD.
No.500 Yuanguo Road, Anting,Jiading District,
Shanghai 201814, P.R. China
Tel: +86 21-69573266 Fax: +86 21-69573296
Email: shkruger@krugergroup.com

CHINA (WUHAN)

WUHAN KRUGER VENTILATION CO. LTD.
No. 805, Huian Ave, Dongxihu District, Wuhan,
Hubei, P.R. China 430040
Tel: +86 27- 83248840/83060522/83097505
Fax: +86 27- 83261886
Email: whkruger@krugergroup.com

HONG KONG

KRUGER VENTILATION (HONG KONG) LIMITED.
Flat C, 9/F, Yeung Yiu Chung (No.8) Industrial Building,
20 Wang Hoi Road, Kowloon Bay, Kowloon, Hong Kong
Tel: +852 22469182 Fax: +852 22469187
Email: info@kruger.com.hk

TAIPEI

KRUGER VENTILATION (TAIWAN) CO., LTD.
No. 157, Ping-an Rd, Hengfeng Village, Dayuan Shiang
Taoyuan County 337, Taiwan
Tel: +886 3-3859119 Fax: +886 3-3859118
Email: sales@krugertwn.com.tw

MALAYSIA

KRUVENT INDUSTRIES (M) SDN. BHD.
Lot 850, Jalan Subang 7, Taman Perindustrian Subang,
47500, Subang Jaya, Selangor D.E.
Tel: +603 80743399 Fax: +603 80743388
Email: mktg@krugergroup.com.my

PHILIPPINES

KRUGER M & E INDUSTRIES CORPORATION
B3 Welborne Industrial Park Bandal Carmona Cavite
4116, Philippines
Tel: +63-2-7 6223260 * +63-46 4129652
HP: +63 925 8018444
Email: mktg@krugergroup.net



A member of



CNo.-CAT007.E7 JULY 2023