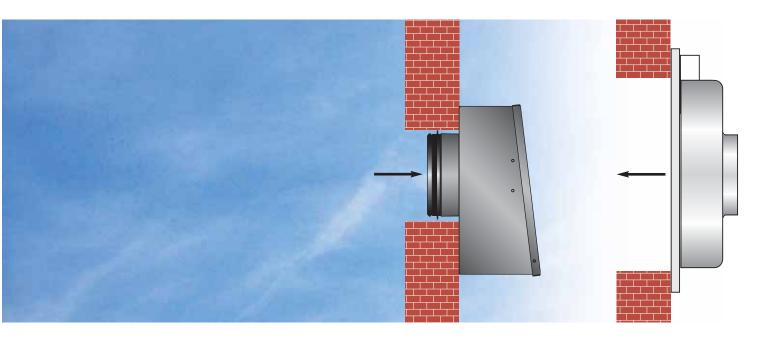


CV/KV, RS Wall fans with circular connection



Contents

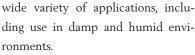
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RS 100 A/C	8
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Wall fans from Östberg

CV AND KV WALL FANS

The CV and KV are identical except for the mounting plates; KV has a square one, while the CV has a circular. This combined with ease of positioning allows for a



The wall fans are manufactured from galvanised steel and are fitted with external rotor type motors with



ball bearing and radial backward curved impeller blades. The fan speed can be controlled by voltage/frequency variation.

There are 6 sizes of CV and KV with 12 different capacities.

RS, EXTERNAL WALL MOUNTED FAN

The RS are a range of exhaust fans designed for mounting on an external wall. All fans are fitted with an external rotor motor with in-built motor protection.

The fans have backward curved impeller blades for high performance and the fan speed can be controlled by voltage/frequency variation. The casings are manufactured from painted galvanised steel for high durability.

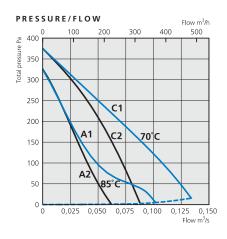
RS is available in 4 sizes and 8 different capacities.

CV/KV 100 A/C CV/KV 125 A/C

Wall fan with backward curved impeller

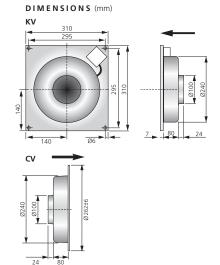


CV/KV 100 A/C



TECHNICAL DATA

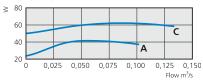
CV/KV	100 A	100 C
Voltage, V/Hz	230/50	230/50
Current, A	0,18	0,27
Input, W	41	62
Speed, rpm	1730	2530
Weight, kg	2,5	2,5
Wiring diagram	4040002	4040001
Capacitor, µF	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44



ACCESSORIES

Safety grille, thermostat, louvre & back draught shutter, transformer controllers

INPUT/FLOW



1 = Connected to duct at the induction side.2 = Not connected to duct.

SOUND DATA

CV/KV 100 A, 40 l/s 125 Pa	L _{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	36	43	35	21	33	35	39	37	37	31
Inlet		66	45	56	64	60	58	52	45	38
CV/KV 100 C, 60 l/s 170 Pa	L _{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	42	49	34	23	40	40	44	42	44	38
Inlet		70	50	61	66	65	65	59	52	46

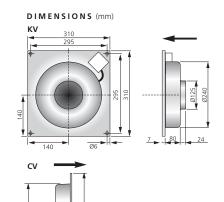
General fan facts, page 10-11.

CV/KV 125 A/C

PRESSURE/FLOW Flow m³/h 500 Total pressure Pa 350 300 250 200 150 **A1** 100 50 0,02 0,04 0,06 0,08 0,10 0,12 0,14

TECHNICAL DATA

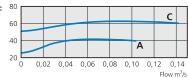
CV/KV	125 A	125 C
Voltage, V/Hz	230/50	230/50
Current, A	0,18	0,27
Input, W	40	62
Speed, rpm	1640	2480
Weight, kg	2,5	2,5
Wiring diagram	4040002	4040001
Capacitor, µF	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44



ACCESSORIES

Safety grille, thermostat, louvre & back draught shutter, transformer controllers

INPUT/FLOW



1 = Connected to duct at the induction side. 2 = Not connected to duct.

SOUND DATA

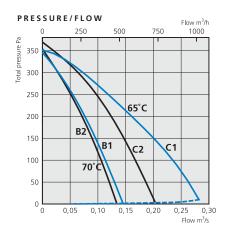
JOUND DATA				27	00					
CV/KV 125 A, 40 l/s 130 Pa	L _{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	36	43	35	20	35	34	38	38	36	30
Inlet		67	44	51	66	60	56	52	47	39
CV/KV 125 C, 80 l/s 145 Pa	L_{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	42	49	36	25	39	39	44	43	45	36
Inlet		70	49	55	64	67	64	60	55	48



CV/KV 160 B/C CV/KV 200 A/B

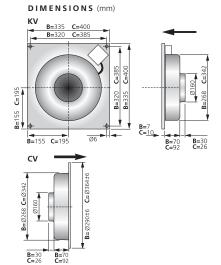
Wall fan with backward curved impeller

CV/KV 160 B/C



TECHNICAL DATA

/50
44
05
80
4,0
01
3
F
44
1



ACCESSORIES

Safety grille, thermostat, louvre & back draught shutter, transformer controllers

SOUND DATA

CV/KV 160 B, 70 l/s 195 Pa	L_{pA}	L _{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	42	49	35	24	39	40	45	44	44	32
Inlet		69	48	54	64	65	63	58	53	48
CV/KV 160 C, 160 l/s 190 Pa	L _{pA}	L _{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
CV/KV 160 C, 160 l/s 190 Pa Environment	L pA 49	L _{wA} tot dB (A)	63 35	125 34	250 42	500 49	1K 54	2K 47	4K 48	8K 35

50 0,15 0,05 0,10

INPUT/FLOW

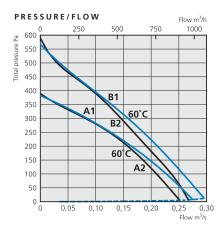
90

1 = Connected to duct at the induction side.2 = Not connected to duct.

0,20

0,25 0,30

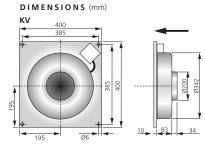
CV/KV 200 A/B



TECHNICAL DATA

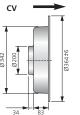
General fan facts, page 10-11.

CV/KV	200 A	200 B
Voltage, V/Hz	230/50	230/50
Current, A	0,51	0,69
Input, W	115	158
Speed, rpm	2580	2500
Weight, kg	4,1	4,8
Wiring diagram	4040001	4040001
Capacitor, µF	4	4
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

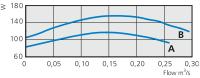


ACCESSORIES

Safety grille, thermostat, louvre & back draught shutter, transformer controllers



INPUT/FLOW



1 = Connected to duct at the induction side. 2 = Not connected to duct.

SOUND DATA

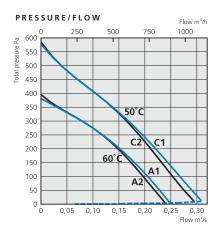
JOUND DATA				34	0.5					
CV/KV 200 A, 190 l/s 190 Pa	L_{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	47	54	34	31	42	46	50	47	48	34
Inlet		72	52	60	64	67	66	64	65	55
CV/KV 200 B, 160 l/s 300 Pa	L_{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	48	55	35	30	40	48	52	48	49	41
Inlet		73	52	62	66	67	66	65	64	58

CV/KV 250 A/C CV/KV 315 B/C

Wall fan with backward curved impeller



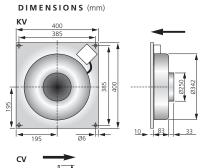
CV/KV 250 A/C

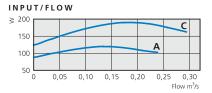


TECHNICAL DATA

CV/KV	250 A	250 C
Voltage, V/Hz	230/50	230/50
Current, A	0,53	0,84
Input, W	120	192
Speed, rpm	2580	2420
Weight, kg	4,1	4,9
Wiring diagram	4040001	4040001
Capacitor, µF	4	5
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

Safety grille, thermostat, louvre & back draught shutter,





1 = Connected to duct at the induction side. 2 = Not connected to duct.

SOUND DATA

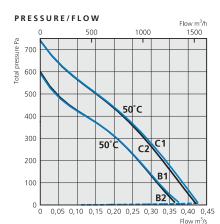
transformer controllers

ACCESSORIES

CV/KV 250 A, 135 l/s 250 Pa	l a	La tot dB (A)	63	125	250	500	1K	2K	4K	8K	
Environment	-pA	54	26	30	34	47	52	47	44	38	
	47										
Inlet		74	51	60	67	67	69	68	64	55	
CV/KV 250 C, 160 l/s 320 Pa	L _{pA}	L _{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K	
Environment	49	56	26	38	40	50	53	49	46	40	

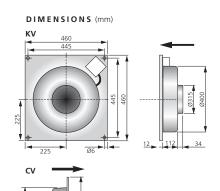
General fan facts, page 10-11.

CV/KV 315 B/C



TECHNICAL DATA

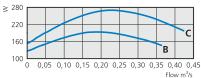
CV/KV	315 B	315 C
Voltage, V/Hz	230/50	230/50
Current, A	0,84	1,19
Input, W	190	274
Speed, rpm	2465	2500
Weight, kg	5,5	6,0
Wiring diagram	4040001	4040001
Capacitor, μF	5	8
Insulation class, motor	F	F
Motor protection	IP 44	IP 44



ACCESSORIES

Safety grille, thermostat, louvre & back draught shutter, transformer controllers

INPUT/FLOW



1 = Connected to duct at the induction side. 2 = Not connected to duct.

SOUND DATA

				,						
CV/KV 315 B, 220 l/s 300 Pa	L _{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	47	54	28	35	43	48	49	50	45	41
Inlet		74	54	56	61	65	65	70	67	65
CV/KV 315 C, 180 l/s 425 Pa	L _{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	50	57	30	35	44	51	51	53	50	43
Inlet		75	58	60	67	66	66	72	68	66

ACCESSORIES



SAFETY GRILLE, BSV

Made of pre-galvanised steel mesh with angled lugs for fitting pipes. Available in sizes \emptyset 80-800 mm.



LOUVRE SHUTTER, VK

Self-closing louvre shutters with a very low air flow resistance. Available in 14 sizes.



VARIABLE SPEED CONTROL, ETFV

For single phase motors with 0-10 V signal.



REGULATOR, FRE6

FRE 6 is intended to be used in ventilation systems to regulate single phase fans in five different regulation programs, which are built in to the regulator.



BACK DRAUGHT SHUTTER, RSK

For fitting in circular ducts. Made from pre-galvanised steel with spring-loaded vanes of aluminium. Can be fitted in any position and is available in the diameters Ø 100-630 mm.



DUCT CLAMP, MK

The fan is connected to the duct using duct clamp MK. The clamp is made from pre-galvanized steel and is rubber-lined to seal the connection and absorb vibrations. Available in sizes \emptyset 80-630 mm.



THYRISTOR CONTROLLER, VRS

For manual variable speed control of single-phase motors. Minimum speed is adjusted by means of a screw under the knob. The controller is certified and approved as conforming to electrical safety and interference regulations on all markets. All single-phase fans from Östberg can be regulated with VRS controller.



WALL GRID, YG

Wall grid YG is manufactured from die-cast aluminium with a 4 mm thickness of material. The grid is designed for outside use, and is equipped with a fine meshed net as standard. YG has circular fittings adaptable for ventilation ducts. Available in the diameters Ø 100-315 mm.



SILENCER, LDC

Circular silencers in sizes of 100 mm to 315 mm in diameter. Each size is available in either a length of 600 mm or 900 mm. The silencer is composed by a perforated duct, gables and outer sheet, all of galvanized steel. In between there are insulation made of rock wool.



TRANSFORMER-CONTROLLERS

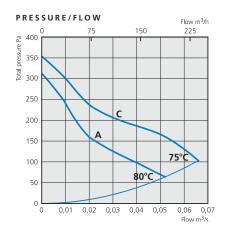
For high and low speed control of single phase and 3-phase motors. The controller is enclosed in a durable PVC-housing.

RS 80 A/C RS 100 A/C

External wall mounted fan with backward curved impeller



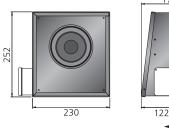
RS 80 A/C



TECHNICAL DATA

RS 80	Α	С
Voltage, V/Hz	230/50	230/50
Current, A	0,20	0,32
Input, W	45	74
Speed, rpm	1850	2520
Weight, kg	3,4	3,4
Wiring diagram	4040002	4040001
Capacitor, μF	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

DIMENSIONS (mm)





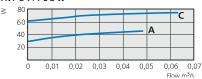
ACCESSORIES

Transformer and variable speed controllers, regulators

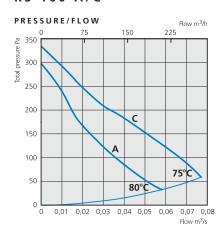
SOUND DATA

RS 80 A, 30 l/s 125 Pa	LpA	LwA tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	57	64	31	39	52	59	62	58	51	43
Inlet		66	57	58	60	61	59	55	50	42
RS 80 C, 35 l/s 195 Pa	LpA	LwA tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	63	70	36	43	56	64	67	63	58	49
Environment Inlet	63	70 72	36 61	43 63	56 66	64 67	67 66	63 61	58 56	49 50

INPUT/FLOW



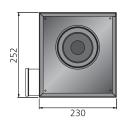
RS 100 A/C

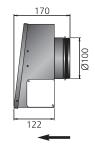


TECHNICAL DATA

RS 100	Α	c
Voltage, V/Hz	230/50	230/50
Current, A	0,21	0,34
Input, W	48	76
Speed, rpm	1830	2490
Weight, kg	3,4	3,4
Wiring diagram	4040002	4040001
Capacitor, µF	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

DIMENSIONS (mm)

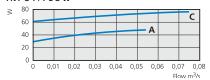




ACCESSORIES

Transformer and variable speed controllers, regulators

INPUT/FLOW



SOUND DATA

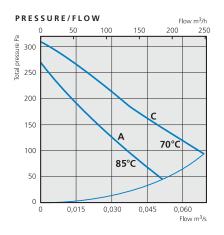
RS 100 A, 35 I/s 105 Pa	LpA	LwA tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	56	63	30	37	49	56	61	56	50	41
Inlet		67	58	59	61	61	60	55	50	42
RS 100 C, 35 l/s 195 Pa	LpA	LwA tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	62	69	35	43	54	63	67	62	57	48
Inlet		73	60	61	66	68	67	62	57	53



RS 125 A/C RS 160 A/C

External wall mounted fan with backward curved impeller

RS 125 A/C



TECHNICAL DATA

RS 125	Α	С	
Voltage, V/Hz	230/50	230/50	
Current, A	0,20	0,32	
Input, W	45	73	
Speed, rpm	1400	2460	
Weight, kg	3.4	3.4	
Wiring diagram	4040002	4040001	
Capacitor, µF	3	2	
Insulation class, motor	F	F	
Motor protection	IP 44	IP 44	

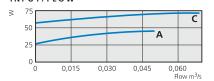
DIMENSIONS (mm)



ACCESSORIES

Transformer and variable speed controllers, regulators

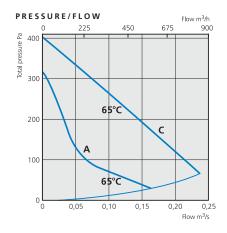
INPUT/FLOW



SOUND DATA

RS 125 A, 39 l/s 90 Pa	L _{pA}	L _{wA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	55	62	41	40	50	56	58	55	44	35
Inlet		63	63	54	58	58	56	51	42	28
RS 125 C, 50 l/s 145 Pa										
Environment	62	69	48	41	56	63	66	63	54	46
Inlet		70	55	59	63	65	63	59	51	40
General fan facts, page 10-11.										

RS 160 A/C



TECHNICAL DATA

RS 160	Α	C
Voltage, V/Hz	230/50	230/50
Current, A	0,29	0,46
Input, W	64	104
Speed, rpm	1200	2480
Weight, kg	5,0	5,0
Wiring diagram	4040002	4040001
Capacitor, μF	3	3
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

DIMENSIONS (mm)

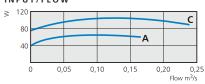




ACCESSORIES

Transformer and variable speed controllers, regulators

INPUT/FLOW



SOUND DATA

RS 160 A, 68 l/s 95 Pa	L _{pA}	L _{WA} tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	51	58	48	38	49	53	52	50	40	32
Inlet		61	45	53	55	56	54	45	37	19
RS 160 C, 138 l/s 210 Pa										
Environment	64	71	48	44	60	66	66	64	58	46
Inlet		73	520	60	66	70	68	59	55	41
Gonoral fan facts, pago 10, 11										

GENERAL FAN FACTS

DESCRIPTION

- The fan is used for transportation of "clean" air, meaning not intended for fire-dangerous substances, explosives, grinding dust, soot,
- The fan is equipped with an asynchronous external rotor induction motor with maintenance-free sealed ball-bearings.
- The capacitor has finite lifetime and should be exchanged after 45.000 hours of operation (about 5 years) to secure maximum function. Defective capacitor can cause damage.
- To achieve maximum life time for installations in damp or cold environments, the fan should be operating continuously.
- The fan can be installed outside or in other damp environments. Make sure that the fanhouse is equipped with drainage.
- All fans are as standard, single phase 230V, 50 Hz and 220V, 60 Hz. Other voltages/frequencies on request.
- The fan can be installed in any position.

INSTALLATION

- The fan must be installed according to the air direction label on the fan.
- The fan must be connected to duct or equipped with a safety grille.
- The fan should be installed in a safe way and make sure that no foreign objects are left behind.
- The fan should be installed in a way that makes service and maintenance easy.
- The fan should be installed in a way that vibrations can not be transfused to duct or building. To provide this, use for example a duct clamp.

- · To regulate the speed, a transformer, a triac or a frequency converter can be connected.
- A wiring diagram is applied on the inside of
- the junction box or separately enclosed. The fan must be installed and connected electrically in the correct way grounded.
- Electrical installations must be made by an authorized electrician.
- Electrical installations must be connected to a locally situated tension free switcher or by a lockable head switcher.

OPERATION

When starting, make sure that:

- the connecting voltage is in between +6% to -10% of the rated voltage.
- no noise appears when starting the fan.

HOW TO HANDLE

The fan must be transported in its packing until installation. This prevents transport damages, scratches and the fan from getting

MAINTENANCE

- Before service, maintenance or repair begins. the fan must be tension free and the impeller must have stopped.
- The fan must be cleaned when needed, at least once per year to maintain the capacity and to avoid unbalance which may cause unnecessary damages on the bearings.
- The fan bearings are maintenance-free and should be renewed only when necessary.
- When cleaning the fan, high-pressure cleaning or strong dissolvent must not be used.

- Cleaning should be done without dislodging or damaging the impeller.
- Make sure that there is no noise from the fan

FAULT DETECTION

- 1. Make sure that there is tension to the fan.
- 2. Cut the tension and verify that the impeller is not blocked.
- 3. Check the thermo-contact/motor protector. If it is disconnected the cause of overheating must be taken care of, not to be repeated. To restore the manual thermo-protector the tension will be cut for a couple of minutes. Larger motors than 1,6 A may have manual resetting on the motor. If it has automatic thermo-protector the resetting will be done automatically when the motor is cold.
- 4. Make sure that the capacitor is connected, (single phase only) according to the wiring
- 5. If the fan still does not work, the first thing
- to do is to renew the capacitor.

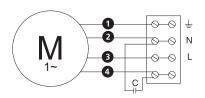
 6. If nothing of this works, contact your fan supplier.
- 7. If the fan is returned to the supplier, it must be cleaned, the motor cable undamaged and a detailed nonconformity report enclosed.

WARRANTY

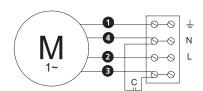
The warranty is only valid under condition that the fan is used according to this "Directions for

Wiring diagrams

4040001 Single phase



4040002 Single phase



M = Fan Motor

M1) = Fan Motor

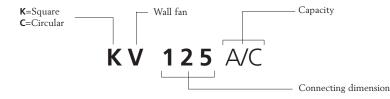
M2 = Fan Motor

(M3) = Rotor Motor

= Yellow/Green

= Black

Key to model types



GENERAL FAN FACTS

Pressure/flow-curves explanation

FIG. 1:
The fan curve describes the capacity of the fan, i.e. the flow of the fan at different pressures at a certain input voltage.

The fan diagram has the pressure in Pascal, Pa, on the vertical axis and the flow in cubic metres per second, m3/s, on the horizontal axis.

The point on the fan curve showing the current pressure and flow is called the fans working point. In our example it is marked with P.

If the pressure increases in the ducts, the

working point moves along the fan curve and hence a lower flow is obtained. In the example the working point would move from P1 to P2.

FIG. 2:

The system line describes the total behaviour of a ventilation system (ducts, silencers and valves

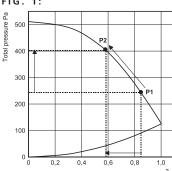
Along this system line, S, the working point is moved from P2 to P3 as the rotational speed is changed.

Distinct voltage steps with eg. a transformer produces different fan curves, 135 V and 230 V, indicated in the example.

Our fan curves present the total pressure in Pascal. Total pressure = Static + Dynamic pres-

The static pressure is the pressure of the fan compared to the atmospheric pressure. It is this pressure that shall overcome the pressure losses of the ventilation system.

FIG. 1:



The dynamic pressure is a calculated pressure that arises at the outlet of the fan, and is mostly due to air velocity. The dynamic pressu-re thus describes how the fan is working. The dynamic pressure is presented with a curve, starting at origo, that increases with increased flow. A high dynamic pressure can with wrong duct connection produce a high pressure loss. If the pressure loss in the system is known, a fan whose difference between the total and the dynamic pressure corresponds to the pressure loss in the system must be found

FIG. 2:

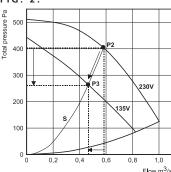
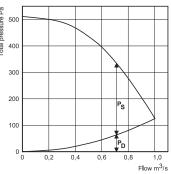


FIG. 3:



Sound data explanation

SOUND DATA IN THIS BROCHURE IS BASED ON FOL-LOWING DEFINITIONS:

The points for which the sound data is presented are along the system line defined by the pressure and flow stated in the sound data table for each fan. There are three types of sound in these tables; inlet- and outlet sound are measured in duct, while the surrounding sound is measured outside the fan and duct system. For all these types of sound, the sound power levels are presented in octave bands. For the surrounding sound, also the sound pressure level has been calculated.

THE SOUND POWER LEVEL

The sound power level, Lw(A) is used to calculate the sound from the whole ventilation system. This system can be a composition of grilles, dampers and diffusers for example.

The sound power level is a measured value according to standards, and it does not tell how the sound appears as the sound power is independent of the characteristics of the placement of the fan. In order to resemble the human ear, the A-filter is used indicated with Lw(A) measured in dB(A).

THE SOUND PRESSURE LEVEL

The sound pressure level, Lp or Lp(A), tells how the human ear registrates the sound. It is dependent on the sound power level, distance from the source, restrictions of the propagation and the accoustic characteristics of the room.

The sound pressure level is presented for a room with an equivalent absorption area of 20 m² at a distance of 3 m, where the sound is emitted in a semi spherical propagation.

The sound pressure level can be calculated as:

 $Lp=Lw + 10Log (Q/4\pi r^2 + 4/A)$

where A is the room's equivalent absorption area and Q is the propagation type:

Q=1 is spherical propagation

Q=2 is semi spherical propagation

Q=4 is quarter spherical propagation.

Thus, for the above specified properties of the placement of the fan, the difference between sound pressure and sound power is:

 $Lp-Lw=10log(2/4\pi 3^2+4/20)=\sim -7dB$

which is the difference that can be seen in the tables of sound data for each fan. For the free field case, i.e. from a roof fan, the sound pressure level is calculated as: $Lp=Lw+10log(2/4\pi r^2)$.

Temperature of transported air

In pressure/flow diagrams or in the table of technical data there are facts about highest temperature of transported air.

All motors have insulation class F which means that the thermal contact disconnects the power when the winding temperature is maxi-

mum 155°C. At this winding temperature the life time of the ball bearings is not optimal. This is why the ambient temperature is shown at a lower winding temperature so the life time of ball bearings becomes optimal.

The winding temperature variates in the diagrams and depending on differences in power/ current consumption. The temperatures in our diagrams are given at the highest winding tem-



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We have continued to develope new products and today we offer a wide range of centrifugal in-line duct fans.

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