

# CK, LPK, LPKB

Duct fans with circular connection

1



# Contents

## **CK CIRCULAR DUCT FAN .....5**

<b>CK 100 A/C</b>	230 V/50 Hz	.....6
<b>CK 125 A/C</b>	230 V/50 Hz	.....6
<b>CK 150 B/C</b>	230 V/50 Hz	.....7
<b>CK 160 B/C</b>	230 V/50 Hz	.....7
<b>CK 200 A/B</b>	230 V/50 Hz	.....8
<b>CK 250 A/C</b>	230 V/50 Hz	.....8
<b>CK 315 B/C</b>	230 V/50 Hz	.....9
<b>CK 100 A/C</b>	220 V/60 Hz	.....10
<b>CK 125 A/C</b>	220 V/60 Hz	.....10
<b>CK 150 B/C</b>	220 V/60 Hz	.....11
<b>CK 160 B/C</b>	220 V/60 Hz	.....11
<b>CK 200 A/B</b>	220 V/60 Hz	.....12
<b>CK 250 A/C</b>	220 V/60 Hz	.....12
<b>CK 315 B/C</b>	220 V/60 Hz	.....13

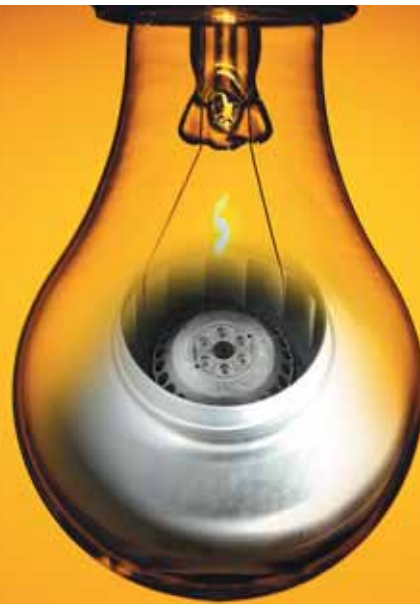
## **LPK AND LPKB LOW PROFILE DUCT FANS ....15**

<b>LPK 100 A/B</b>	.....16
<b>LPK 125 A/B/D</b>	.....16
<b>LPK 160 B/D</b>	.....17
<b>LPK 200 A/B</b>	.....17
<b>LPKB 125 B</b>	.....18
<b>LPKB 160 K</b>	.....18
<b>LPKB 200 B</b>	.....19

## **ACCESSORIES .....20-21**

## **GENERAL FAN FACTS .....22-23**

# THE STRAIGHT WAY



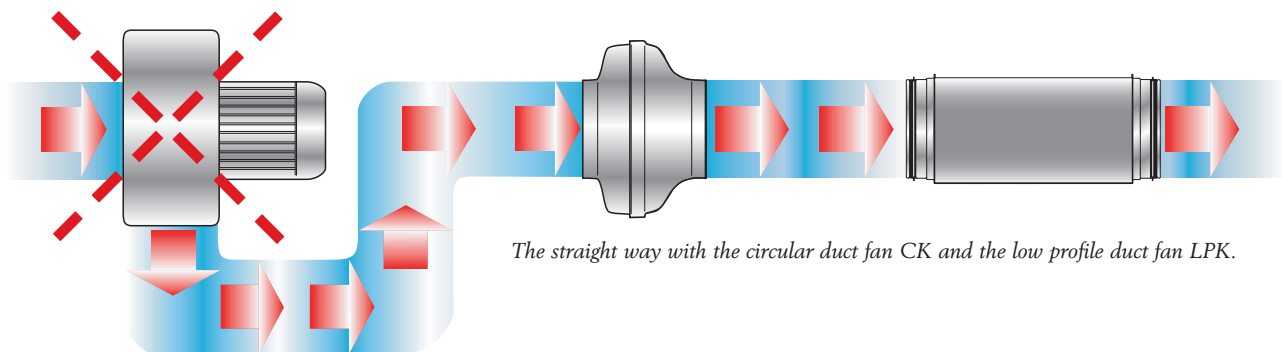
## One of the best inventions since the light bulb

The original idea for the in-line duct fans was to combine the benefits of the radial fan, high pressure and low sound level, with the straight-through airflow of the axial fan.

In 1973 the result was the in-line circular duct fan. This was the first in-line radial duct fan with an external rotor motor and straight-through airflow. Apart from high pressure and low sound level, the main benefit was the ease installation. Unlike the conventional radial fans the in-line circular duct fan is compact and does not require complicated duct arrangements to install it.

A further development of the in-line circular duct fan occurred when Hans Östberg invented, in the middle of the 70's, the rectangular in-line duct fan, which has a low installed height.

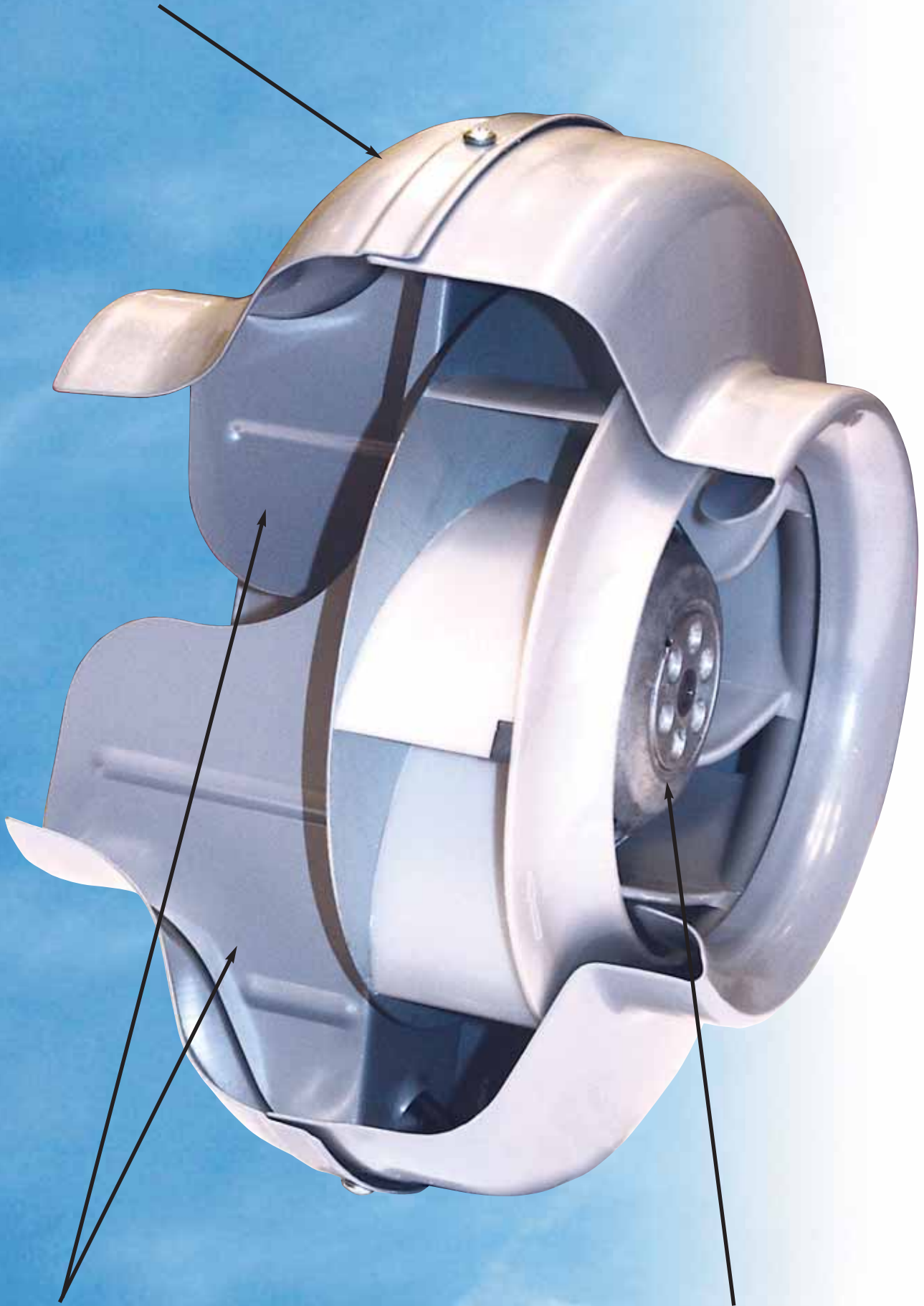
Following on from the rectangular in-line duct fan was the lower profile in-line duct fan LPK. It's installed height is only two centimetres more than the duct dimension. Another advantage is the swing-out design making the impeller very easy to clean.



*The straight way with the circular duct fan CK and the low profile duct fan LPK.*

*The design of housing results in higher flow and with that an even higher efficiency.*

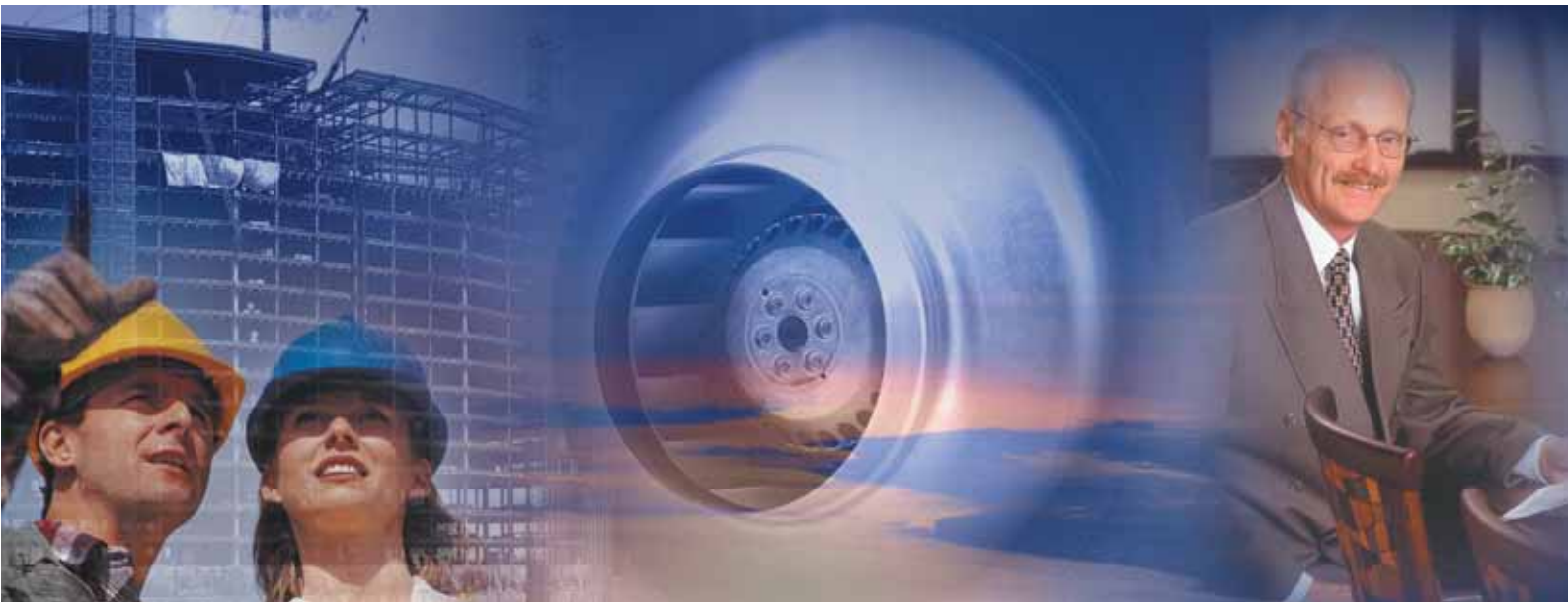
*European Patent 0625642.*



*The revolutionary motor bracket with integrated guide plates that improves the capacity.*

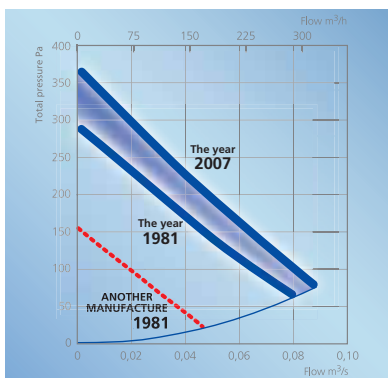
*The external rotor motor with backward curved impeller blades is provided with approved motor protection.*





## CK, circular duct fan

At the start of the 1980's another revolutionary development of the in-line circular duct fan occurred. AB C.A. Östberg launched a new generation fan which had a new casing design, an innovative motor support with integral guide vanes as well as an improved impeller design. After these changes the result was superior



The development of the in-line circular duct fan CK with duct dimension 100 mm. Until the year 1981 the most common model on the market had both low pressure and airflow. In 1981 a superior model was introduced by AB C.A. Östberg which had a much higher pressure and airflow.

technical data compared to their competitors (see diagram).

In 1993 Hans Östberg was granted the patent on further improvements (European Patent 0625642), which resulted in higher quality at the same time as reducing the manufacturing costs.

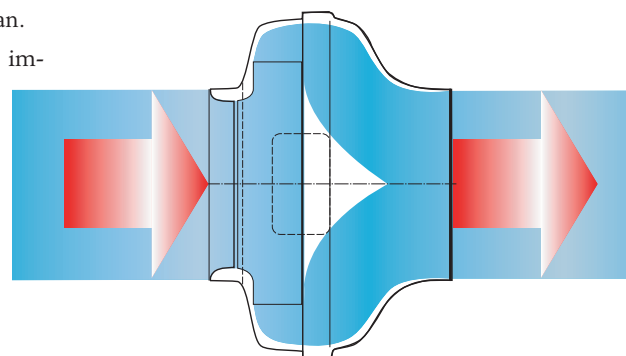
### HIGH CAPACITY AND OPERATIONAL SAFETY

High quality, low sound levels, easy installation and well designed useful accessories are some of the hallmarks of the CK in-line circular duct fan.

CK has a backward curved impeller, an external rotor motor and straight-through airflow. It's compact, requires little space for installation and has a high capacity.

The CK fan can cope with high pressure and long duct runs, whilst still operating with a low sound level. The fan speed can easily be controlled by a transformer or thyristor.

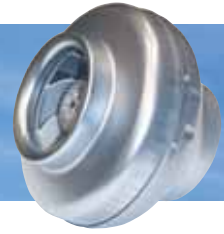
The CK is moisture resistant and is approved for installation in humid or damp environments. The fan casing is manufactured from pre-galvanised steel and the motor has in-built protection. The CK can be installed in any position and is rate IP 44 when installed in a duct system.



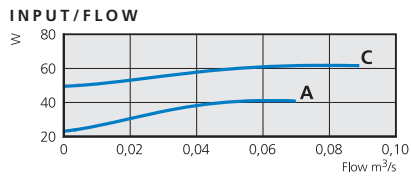
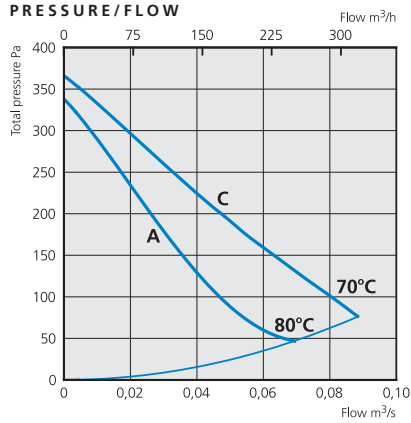
# CK 100 A/C

# CK 125 A/C

Circular duct fan with backward curved impeller



## CK 100 A/C



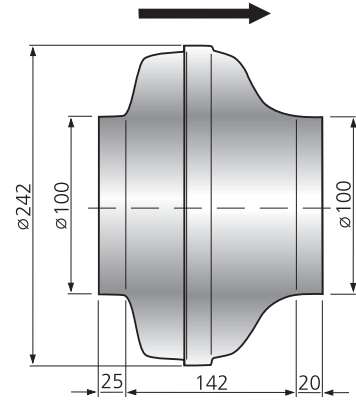
### TECHNICAL DATA

CK	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	2,9	2,9
Wiring diagram	4040002	4040001
Capacitor, $\mu$ F	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

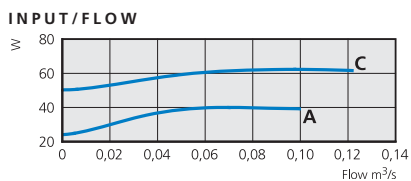
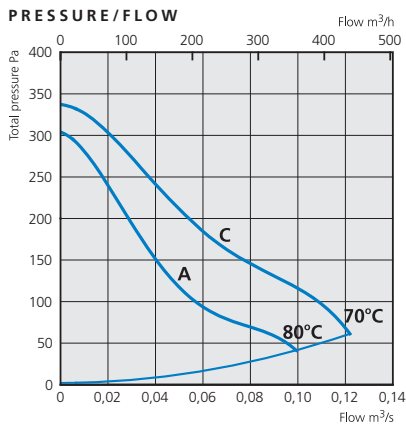
CK 100 A, 40 l/s 125 Pa	$L_{pA}$	$L_{WA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	36	43	35	21	33	35	39	37	37	31
Inlet		66	45	56	64	60	58	52	45	38

CK 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 22-23.

## CK 125 A/C



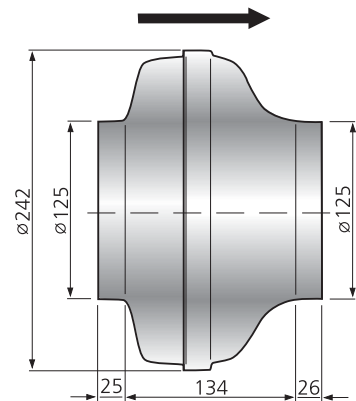
### TECHNICAL DATA

CK	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	2,9	2,9
Wiring diagram	4040002	4040001
Capacitor, $\mu$ F	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

CK 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

CK 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

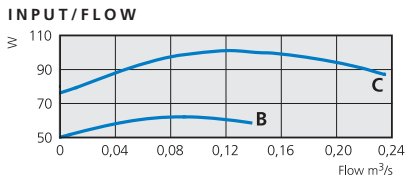
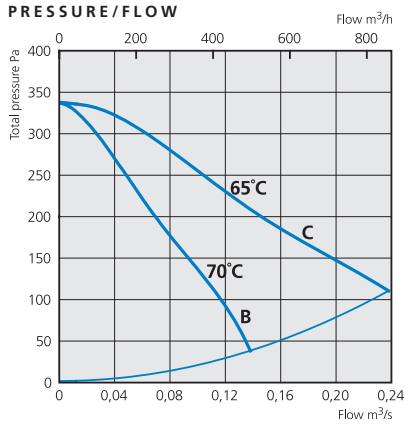
General fan facts, page 22-23.



# CK 150 B/C CK 160 B/C

Circular duct fan with backward curved impeller

## CK 150 B/C



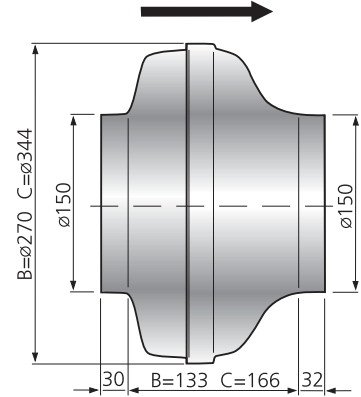
### TECHNICAL DATA

CK	150 B	150 C
Voltage, V/Hz	230/50	230/50
Current, A	0,27	0,44
Input, W	62	101
Speed, rpm	2540	2480
Weight, kg	3,2	4,3
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	2	3
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

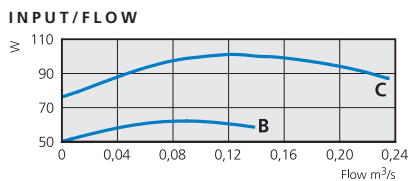
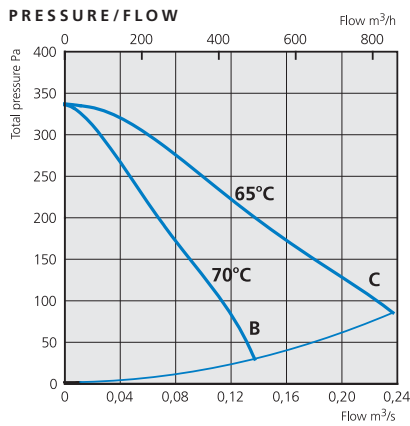
CK 150 B, 70 l/s 195 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	42	49	35	24	39	40	45	44	44	32
Inlet		69	48	54	64	65	63	58	53	48

CK 150 C, 160 l/s 190 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	49	56	35	34	42	49	54	47	48	35
Inlet		73	52	60	64	68	69	64	64	54

General fan facts, page 22-23.

## CK 160 B/C



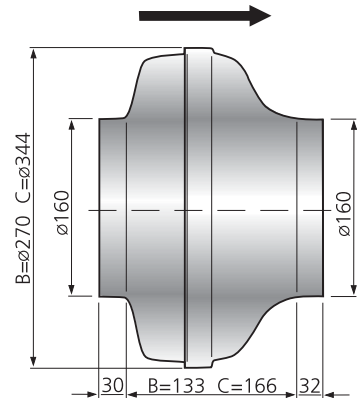
### TECHNICAL DATA

CK	160 B	160 C
Voltage, V/Hz	230/50	230/50
Current, A	0,27	0,44
Input, W	62	101
Speed, rpm	2540	2480
Weight, kg	3,2	4,3
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	2	3
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

CK 160 B, 70 l/s 195 Pa	L <sub>pA</sub>	L <sub>wA</sub> 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

CK 160 C, 160 l/s 190 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	49	56	35	34	42	49	54	47	48	35
Inlet		73	52	60	64	68	69	64	64	54

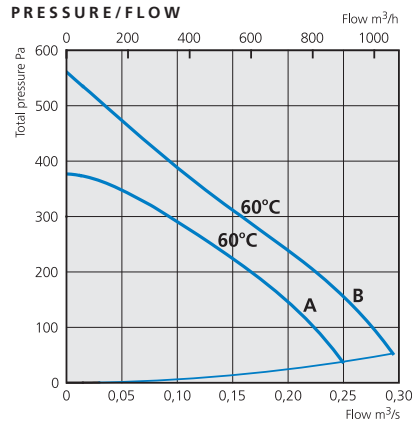
General fan facts, page 22-23.

# CK 200 A/B CK 250 A/C

Circular duct fan with backward curved impeller



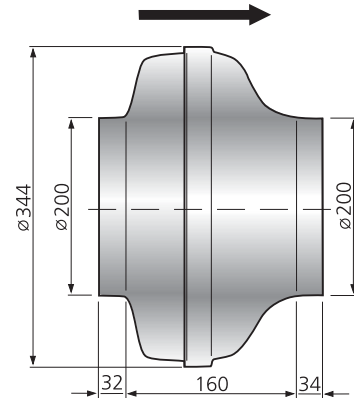
## CK 200 A/B



### TECHNICAL DATA

CK	200 A	200 B
Voltage, V/Hz	230/50	230/50
Current, A	0,51	0,71
Input, W	115	165
Speed, rpm	2580	2500
Weight, kg	4,6	5,1
Wiring diagram	4040001	4040001
Capacitor, $\mu F$	4	4
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

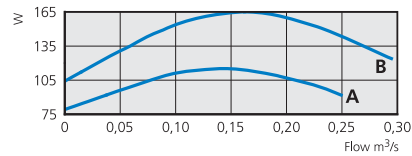
### DIMENSIONS (mm)



### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### INPUT/FLOW



### SOUND DATA

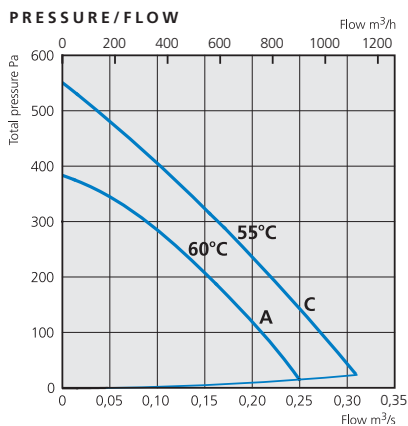
CK 200 A, 190 l/s 190 Pa	$L_{pA}$	$L_{WA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	47	54	34	31	42	46	50	47	48	34
Inlet		72	52	60	64	67	66	64	65	55

CK 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

General fan facts, page 22-23.

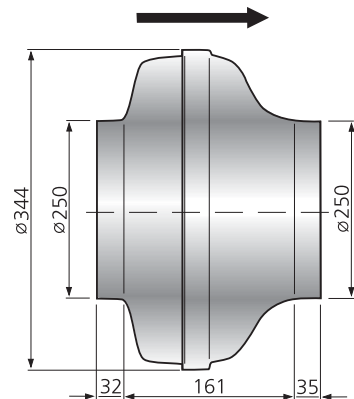
## CK 250 A/C



### TECHNICAL DATA

CK	250 A	250 C
Voltage, V/Hz	230/50	230/50
Current, A	0,50	0,81
Input, W	115	185
Speed, rpm	2580	2420
Weight, kg	4,6	5,3
Wiring diagram	4040001	4040001
Capacitor, $\mu F$	4	5
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

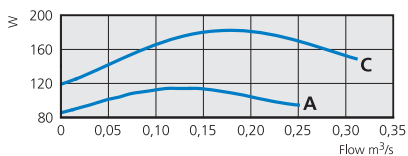
### DIMENSIONS (mm)



### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### INPUT/FLOW



### SOUND DATA

CK 250 A, 135 l/s 250 Pa	$L_{pA}$	$L_{WA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	47	54	26	30	34	47	52	47	44	38
Inlet		74	51	60	67	67	69	68	64	55

CK 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
Inlet		74	52	59	66	67	69	69	66	60

General fan facts, page 22-23

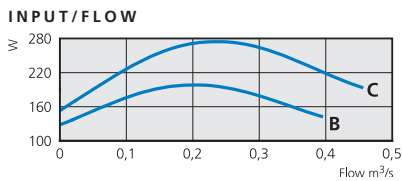
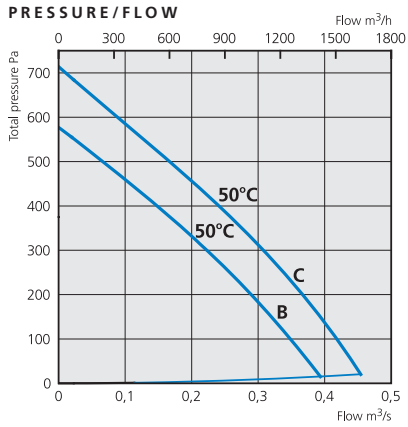




# CK 315 B/C

Circular duct fan with backward curved impeller

## CK 315 B/C



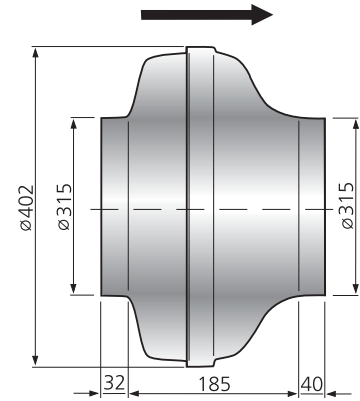
## TECHNICAL DATA

CK	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	6,1	6,5
Wiring diagram	4040001	4040001
Capacitor, $\mu F$	5	8
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

## ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

## DIMENSIONS (mm)



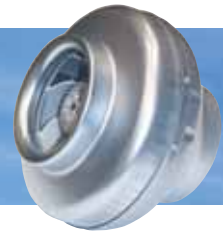
## SOUND DATA

CK 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	
CK 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	

General fan facts, page 22-23.

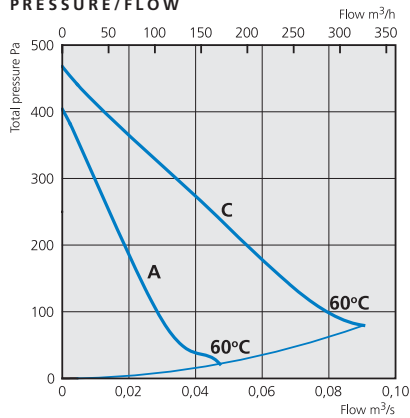
# CK 100 A/C 220/60 HZ CK 125 A/C 220/60 HZ

Circular duct fan with backward curved impeller

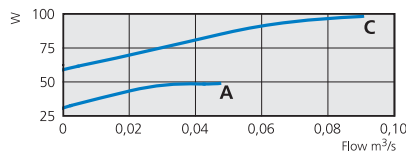


## CK 100 A/C 60 HZ

### PRESSURE/FLOW



### INPUT/FLOW



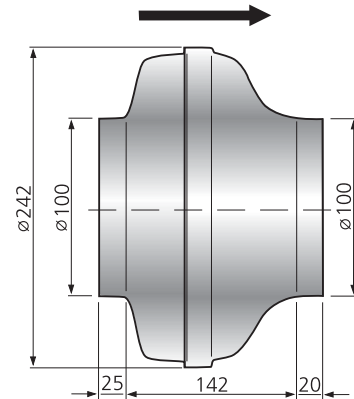
### TECHNICAL DATA

CK	100 A	100 C
Voltage, V/Hz	220/60	220/60
Current, A	0,21	0,42
Input, W	45	91
Speed, rpm	1530	2700
Weight, kg	2,9	2,9
Wiring diagram	4040002	4040001
Capacitor, µF	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

CK 100 A, 42 l/s 36 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	33	40	23	28	29	31	37	33	27	25
Inlet		58	35	51	52	51	50	45	43	23

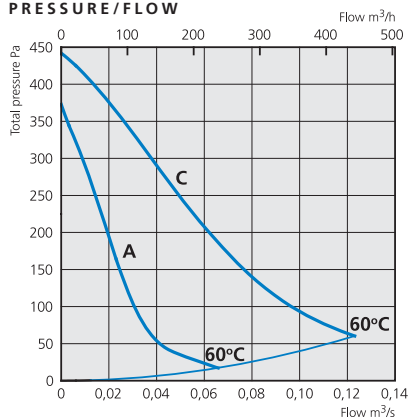
  

CK 100 C, 72 l/s 125 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	45	52	25	31	40	40	48	46	41	40
Inlet		72	47	64	65	66	65	63	57	48

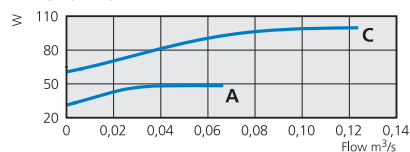
General fan facts, page 22-23

## CK 125 A/C 60 HZ

### PRESSURE/FLOW



### INPUT/FLOW



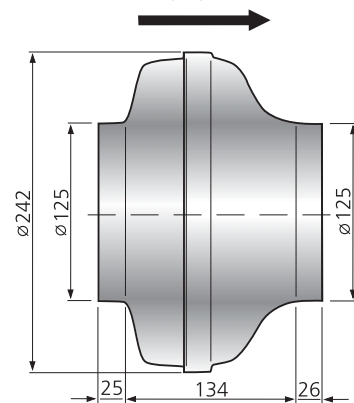
### TECHNICAL DATA

CK	125 A	125 C
Voltage, V/Hz	220/60	220/60
Current, A	0,21	0,44
Input, W	45	95
Speed, rpm	1435	2510
Weight, kg	2,9	2,9
Wiring diagram	4040002	4040001
Capacitor, µF	3	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



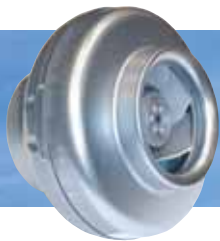
### SOUND DATA

CK 125 A, 44 l/s 43 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	31	38	22	28	30	30	32	30	26	24
Inlet		56	39	46	50	52	48	44	39	23

CK 125 C, 84 l/s 128 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	45	52	25	34	40	40	47	43	47	37
Inlet		71	50	60	63	67	64	63	58	51

General fan facts, page 22-23.

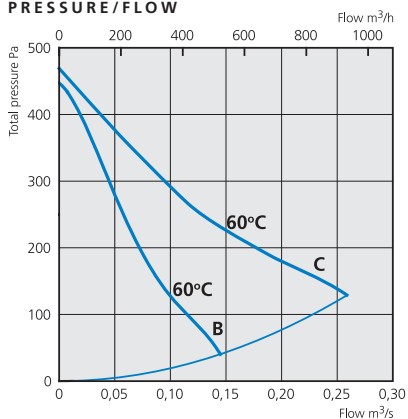


# CK 150 B/C 220/60 HZ CK 160 B/C 220/60 HZ

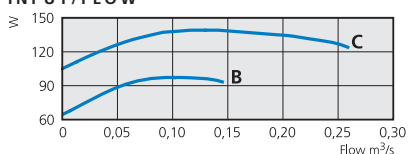
Circular duct fan with backward curved impeller

## CK 150 B/C 60 HZ

### PRESSURE/FLOW



### INPUT/FLOW



### TECHNICAL DATA

CK	150 B	150 C
Voltage, V/Hz	220/60	220/60
Current, A	0,43	0,60
Input, W	93	131
Speed, rpm	2585	2555
Weight, kg	3,2	4,3
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	2	3
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### SOUND DATA

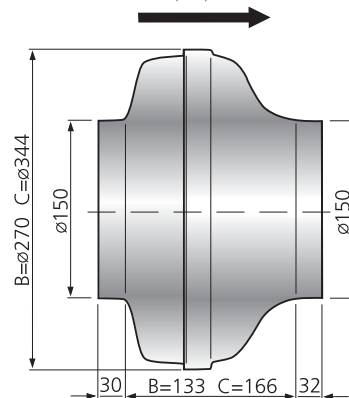
CK 150 B, 96 l/s 135 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	46	53	23	36	38	42	49	48	39	29
Inlet		70	44	56	63	66	63	60	53	47

CK 150 C, 105 l/s 266 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	49	56	24	41	43	48	53	46	47	32
Inlet		75	51	68	70	69	67	64	61	50

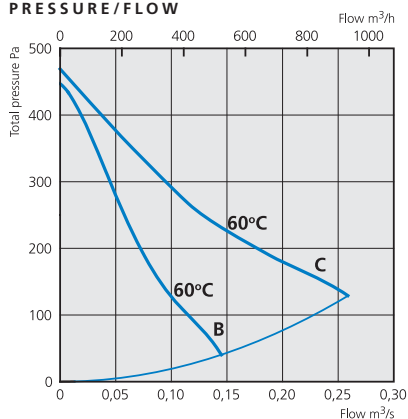
General fan facts, page 22-23.

### DIMENSIONS (mm)

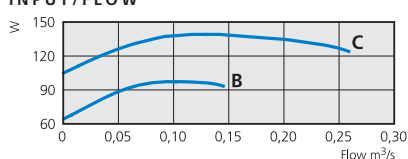


## CK 160 B/C 60 HZ

### PRESSURE/FLOW



### INPUT/FLOW



### TECHNICAL DATA

CK	160 B	160 C
Voltage, V/Hz	220/60	220/60
Current, A	0,43	0,60
Input, W	93	131
Speed, rpm	2585	2555
Weight, kg	3,2	4,3
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	2	3
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### SOUND DATA

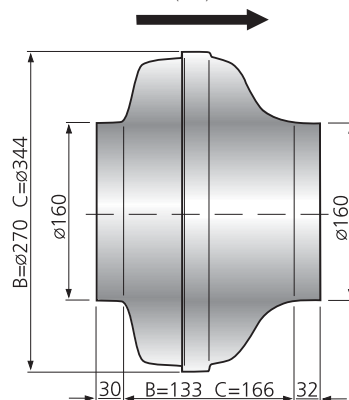
CK 160 B, 96 l/s 131 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	46	53	23	36	38	42	49	48	39	29
Inlet		70	44	56	63	66	63	60	53	47

CK 160 C, 105 l/s 260 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	49	56	24	41	43	48	53	46	47	32
Inlet		75	51	68	70	69	67	64	61	50

General fan facts, page 22-23.

### DIMENSIONS (mm)

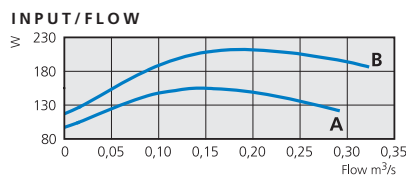
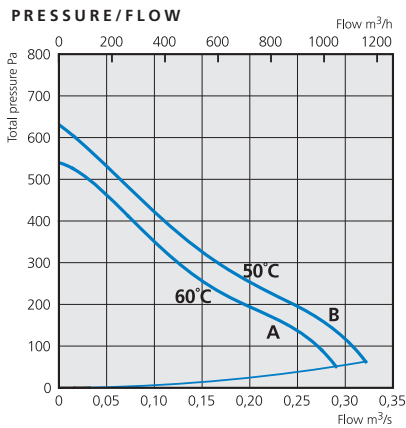


# CK 200 A/B 220/60 HZ CK 250 A/C 220/60 HZ

Circular duct fan with backward curved impeller



## CK 200 A/B 60 HZ



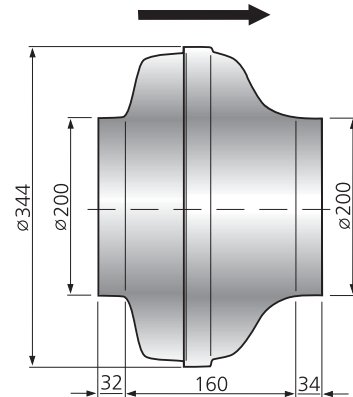
### TECHNICAL DATA

CK	200 A	200 B
Voltage, V/Hz	220/60	220/60
Current, A	0,71	0,97
Input, W	154	211
Speed, rpm	2750	2730
Weight, kg	4,6	5,1
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	4	5
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

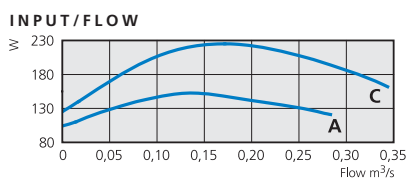
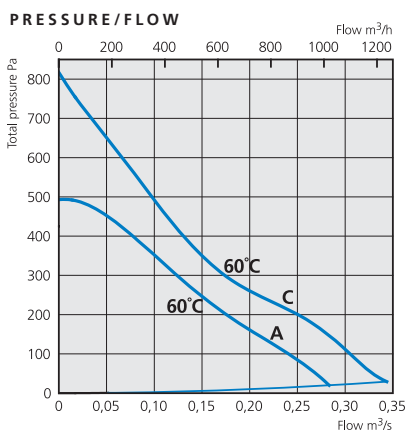
CK 200 A, 188 l/s 206 Pa	$L_{pA}$	$L_{wA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	48	55	22	32	37	47	51	47	48	33
Inlet		76	54	62	70	72	69	65	63	56

CK 200 B, 155 l/s 253 Pa	$L_{pA}$	$L_{wA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	50	57	26	39	44	51	53	48	44	38
Inlet		78	56	67	73	71	69	66	70	61

General fan facts, page 22-23.

## CK 250 A/C 60 HZ



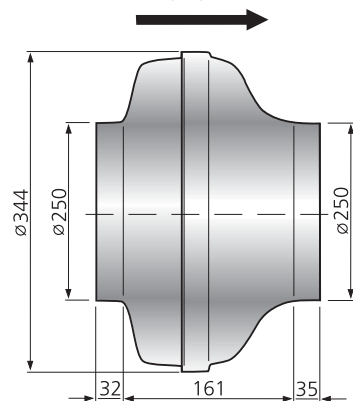
### TECHNICAL DATA

CK	250 A	250 C
Voltage, V/Hz	220/60	220/60
Current, A	0,71	1,00
Input, W	154	217
Speed, rpm	2760	2645
Weight, kg	4,6	5,3
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	4	4
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

CK 250 A, 196 l/s 168 Pa	$L_{pA}$	$L_{wA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	50	57	22	30	40	51	51	53	49	34
Inlet		77	53	59	67	69	73	68	67	59

CK 250 C, 194 l/s 269 Pa	$L_{pA}$	$L_{wA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	49	56	32	36	37	49	53	47	44	35
Inlet		75	54	56	63	67	69	69	67	65

General fan facts, page 22-23.

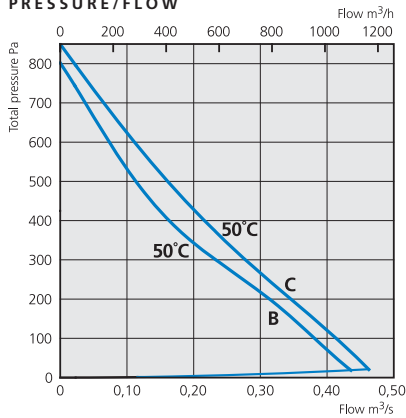


# CK 315 B/C 220/60 HZ

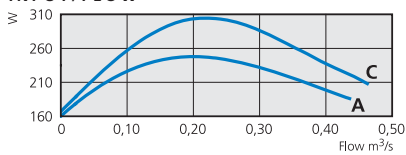
Circular duct fan with backward curved impeller

## CK 315 B/C 60 HZ

### PRESSURE/FLOW



### INPUT/FLOW



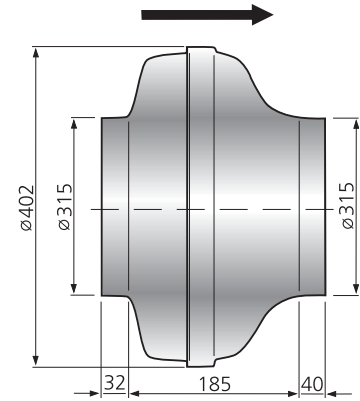
### TECHNICAL DATA

CK	315 B	315 C
<b>Voltage, V/Hz</b>	220/60	220/60
<b>Current, A</b>	1,13	1,40
<b>Input, W</b>	247	304
<b>Speed, rpm</b>	2500	2655
<b>Weight, kg</b>	6,1	6,5
<b>Wiring diagram</b>	4040001	4040001
<b>Capacitor, µF</b>	5	8
<b>Insulation class, motor</b>	F	F
<b>Motor protection</b>	IP 44	IP 44

### ACCESSORIES

Duct clamp, mounting bracket, safety grille, thermostat, louvre & back draught shutter, transformer controllers

### DIMENSIONS (mm)



### SOUND DATA

CK 315 B, 225 l/s 310 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
<b>Environment</b>	49	56	26	47	42	47	50	52	44	32
<b>Inlet</b>		73	55	59	61	64	66	68	67	61

CK 315 C, 242 l/s 357 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
<b>Environment</b>	50	57	28	37	40	50	52	53	45	34
<b>Inlet</b>		73	56	61	63	64	65	67	66	60

General fan facts, page 22-23.



85% of our fans are exported to more than 70 countries all over the world. For example in China the LPK-fans are installed in Beijings highest building Yin Tai.





## LPK and LPKB, low profile duct fans

In the beginning of 2000's AB C.A. Östberg introduced the third generation of duct fans.

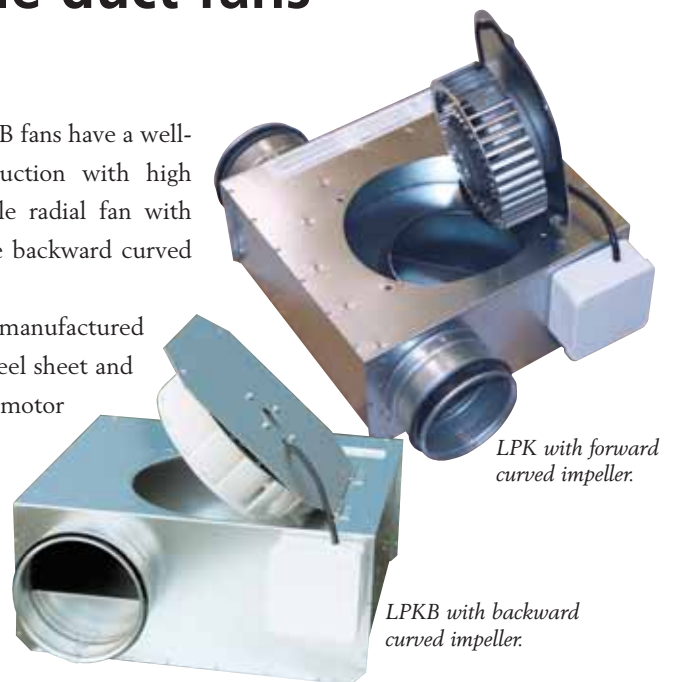
LPK and LPKB are rectangular duct fans for circular ducts. They are small and practical duct fans and they are a perfect choice at low built-in heights. The total height is only two centimetres more than the duct dimension. That makes the LPK and LPKB an important complement in our range of fans.

The capacity and efficiency is high and the sound level is low.

Thanks to the swing-out design the fans are easy to clean.

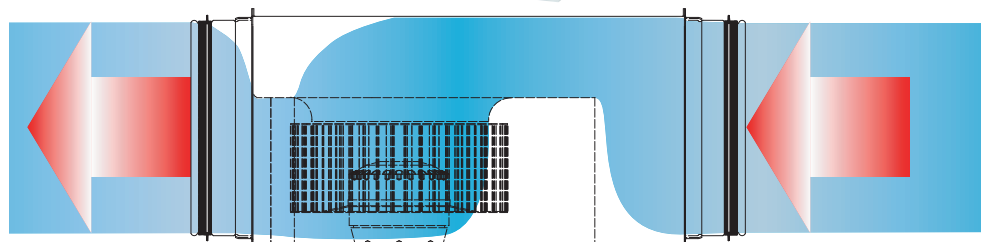
The LPK and LPKB fans have a well-considered construction with high quality controllable radial fan with forward respective backward curved impellers.

The casing is manufactured from galvanised steel sheet and the external rotor motor is provided with approved motor protection.



*LPK with forward curved impeller.*

*LPKB with backward curved impeller.*

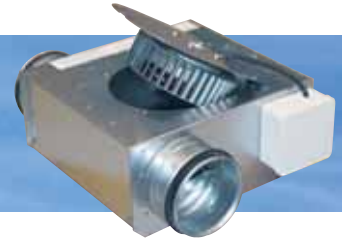


*LPK and LPKB are the perfect choice where a low built-in height is required, for example in high buildings.*

# LPK 100 A/B

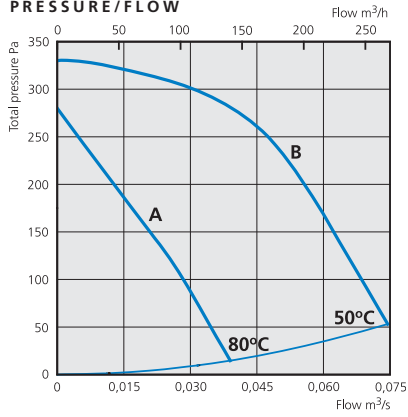
# LPK 125 A/B

Low profile duct fan with forward curved impeller and swing-out design

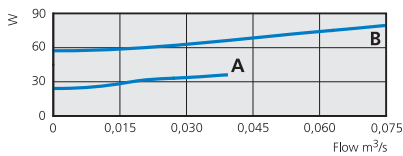


## LPK 100 A/B

### PRESSURE/FLOW



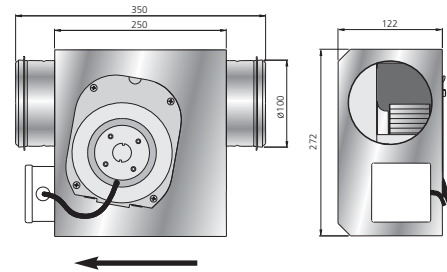
### INPUT/FLOW



### TECHNICAL DATA

LPK	100 A	100 B
Voltage, V/Hz	230/50	230/50
Current, A	0,16	0,34
Input, W	36	77
Speed, rpm	870	1800
Weight, kg	3,5	3,5
Wiring diagram	4040002	4040001
Capacitor, $\mu$ F	2	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### DIMENSIONS (mm)



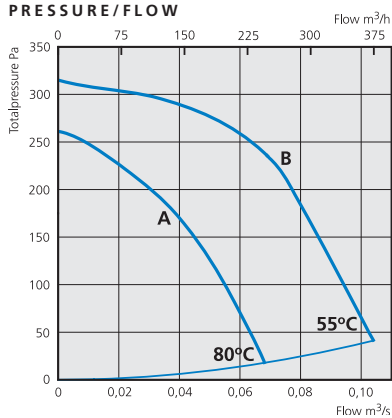
### SOUND DATA

LPK 100 A, 22 l/s 145 Pa	$L_{pA}$	$L_{wA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	37	44	28	33	38	35	37	34	32	32
Inlet		54	45	48	45	47	47	42	37	29
Outlet		58	43	47	49	51	55	49	42	33
LPK 100 B, 46 l/s 245 Pa										
Environment	44	51	28	34	46	43	44	42	40	38
Inlet		62	50	57	56	54	54	51	50	41
Outlet		67	53	57	60	59	62	60	55	49

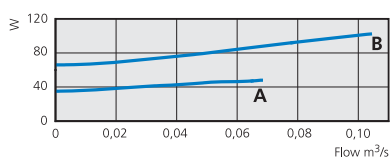
General fan facts, page 22-23.

## LPK 125 A/B

### PRESSURE/FLOW



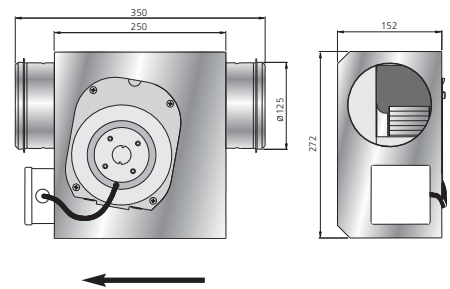
### INPUT/FLOW



### TECHNICAL DATA

LPK	125 A	125 B
Voltage, V/Hz	230/50	230/50
Current, A	0,21	0,44
Input, W	47	100
Speed, rpm	1050	1450
Weight, kg	3,8	3,8
Wiring diagram	4040002	4040001
Capacitor, $\mu$ F	4	2
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### DIMENSIONS (mm)

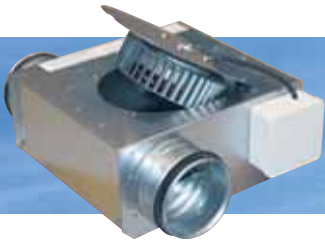


### SOUND DATA

LPK 125 A, 41 l/s 142 Pa	$L_{pA}$	$L_{wA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	42	49	29	35	41	41	44	42	36	33
Inlet		60	46	50	52	54	55	50	44	31
Outlet		63	47	51	56	57	60	53	48	38
LPK 125 B, 70 l/s 217 Pa										
Environment	48	55	30	37	47	47	51	49	44	39
Inlet		66	53	57	58	61	60	57	51	41
Outlet		70	53	57	61	63	66	62	57	49

General fan facts, page 22-23.

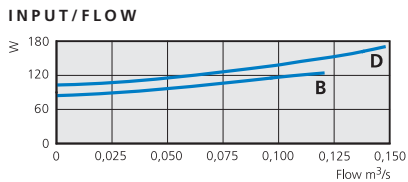
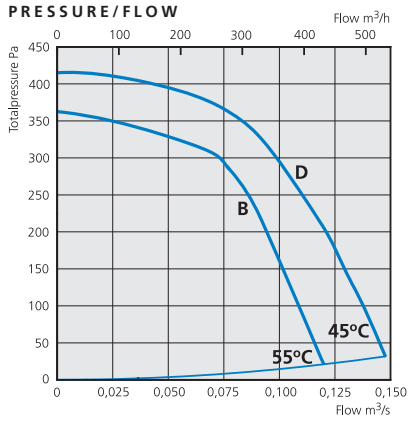




# LPK 160 B/D LPK 200 A/B

Low profile duct fan with forward curved impeller and swing-out design

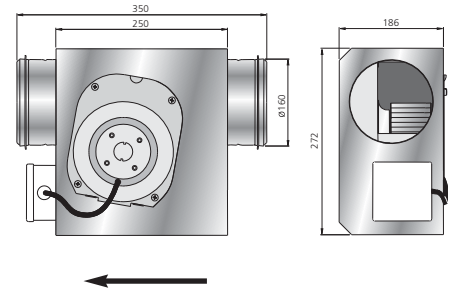
## LPK 160 B/D



### TECHNICAL DATA

LPK	160 B	160 D
Voltage, V/Hz	230/50	230/50
Current, A	0,55	0,72
Input, W	122	162
Speed, rpm	1750	2150
Weight, kg	4,4	4,6
Wiring diagram	4040001	4040001
Capacitor, $\mu$ F	4	3
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### DIMENSIONS (mm)

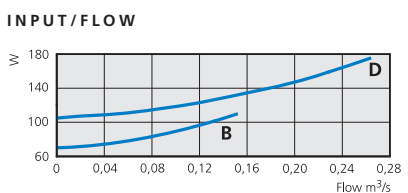
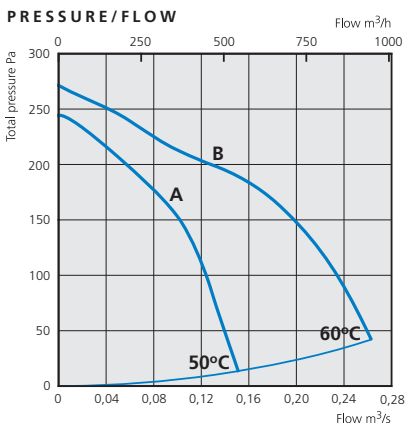


### SOUND DATA

LPK 160 B, 94 l/s 210 Pa	$L_{pA}$	$L_{WA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	49	56	33	41	49	51	50	47	41	38
Inlet		70	54	60	63	65	64	56	53	45
Outlet		71	55	60	65	65	66	62	60	51
LPK 160 D, 107 l/s 260 Pa										
Environment	49	56	33	39	46	51	51	48	44	41
Inlet		72	54	63	66	68	65	58	57	49
Outlet		74	57	62	67	67	67	66	63	55

General fan facts, page 22-23.

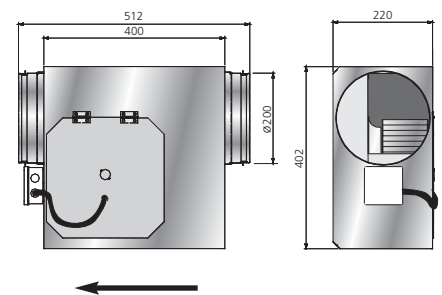
## LPK 200 A/B



### TECHNICAL DATA

LPK	200 A	200 B
Voltage, V/Hz	230/50	230/50
Current, A	0,48	0,77
Input, W	110	175
Speed, rpm	925	1100
Weight, kg	5,2	5,2
Wiring diagram	4040002	4040001
Capacitor, $\mu$ F	3	6
Insulation class, motor	F	F
Motor protection	IP 44	IP 44

### DIMENSIONS (mm)



### SOUND DATA

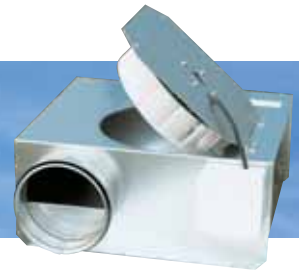
LPK 200 A, 105 l/s 145 Pa	$L_{pA}$	$L_{WA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
Environment	46	53	29	40	40	47	47	47	43	41
Inlet		64	47	58	54	58	55	56	54	47
Outlet		67	55	50	59	61	61	57	56	50
LPK 200 B, 170 l/s 175 Pa										
Environment	50	57	36	43	44	50	53	49	47	44
Inlet		68	51	63	61	62	58	57	56	50
Outlet		72	60	65	63	66	64	63	63	57

General fan facts, page 22-23.

# LPKB 125 B

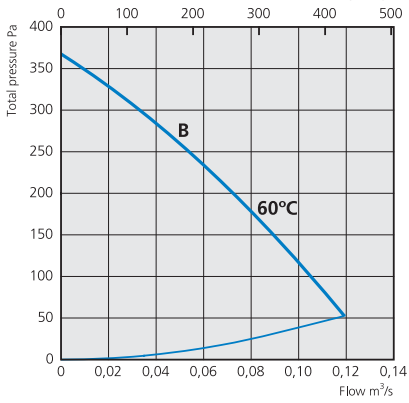
# LPKB 160 K

Low profile duct fan with backward curved impeller and swing-out design

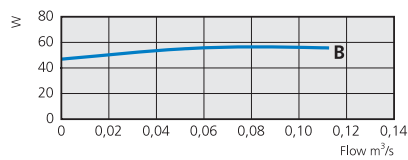


## LPKB 125 B

### PRESSURE/FLOW



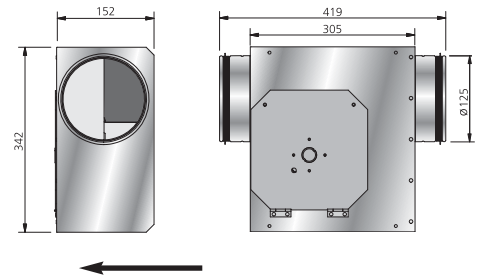
### INPUT/FLOW



### TECHNICAL DATA

<b>LPKB</b>	<b>125 B</b>
<b>Voltage, V/Hz</b>	230/50
<b>Current, A</b>	0,25
<b>Input, W</b>	57
<b>Speed, rpm</b>	2550
<b>Weight, kg</b>	6,5
<b>Wiring diagram</b>	4040140
<b>Capacitor, µF</b>	2
<b>Insulation class, motor</b>	F
<b>Motor protection</b>	IP 44

### DIMENSIONS (mm)



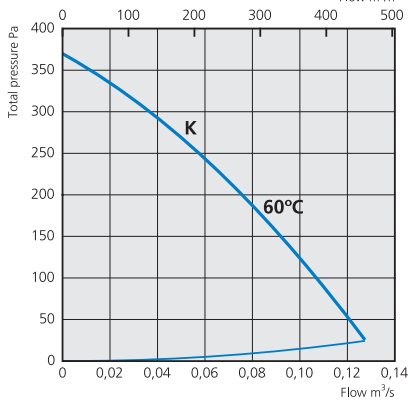
### SOUND DATA

LPKB 125 B, 75 l/s 180 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
<b>Environment</b>	52	59	27	34	57	51	47	43	36	29
<b>Inlet</b>	68	48	59	62	65	56	51	52	45	
<b>Outlet</b>	71	53	60	67	67	63	58	55	48	

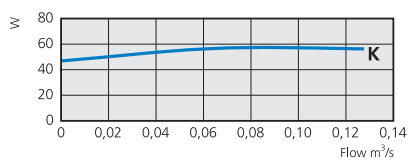
General fan facts, page 22-23.

## LPK 160 K

### PRESSURE/FLOW



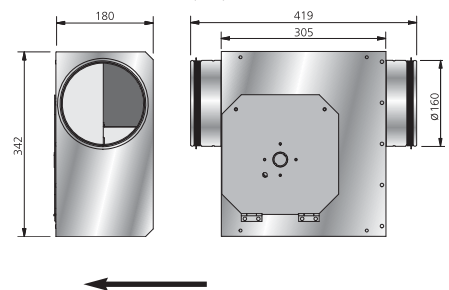
### INPUT/FLOW



### TECHNICAL DATA

<b>LPKB</b>	<b>160 K</b>
<b>Voltage, V/Hz</b>	230/50
<b>Current, A</b>	0,25
<b>Input, W</b>	58
<b>Speed, rpm</b>	2540
<b>Weight, kg</b>	7,5
<b>Wiring diagram</b>	4040140
<b>Capacitor, µF</b>	2
<b>Insulation class, motor</b>	F
<b>Motor protection</b>	IP 44

### DIMENSIONS (mm)

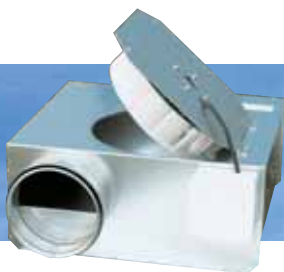


### SOUND DATA

LPKB 160 K, 75 l/s 175 Pa	L <sub>pA</sub>	L <sub>wA</sub> tot dB (A)	63	125	250	500	1K	2K	4K	8K
<b>Environment</b>	50	57	26	34	53	52	46	42	36	30
<b>Inlet</b>	69	51	60	65	64	57	54	53	48	
<b>Outlet</b>	71	55	62	67	67	62	58	55	48	

General fan facts, page 22-23.



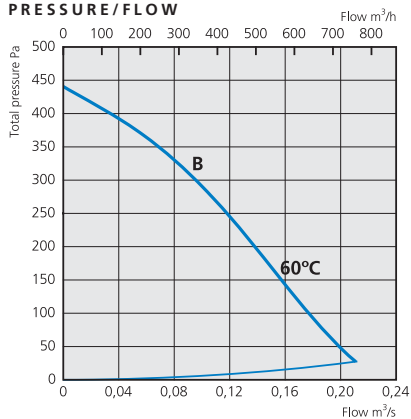


# LPKB 200 B

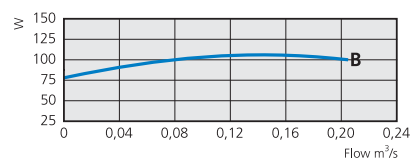
Low profile duct fan with backward curved impeller and swing-out design

## LPKB 200 B

### PRESSURE/FLOW



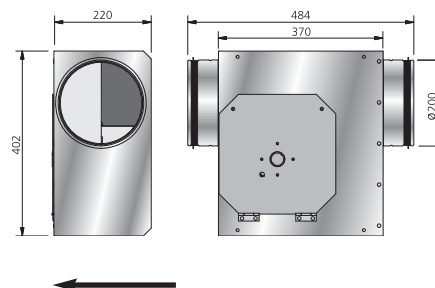
### INPUT/FLOW



### TECHNICAL DATA

<b>LPKB</b>	<b>200 B</b>
<b>Voltage, V/Hz</b>	230/50
<b>Current, A</b>	0,47
<b>Input, W</b>	106
<b>Speed, rpm</b>	2490
<b>Weight, kg</b>	8,5
<b>Wiring diagram</b>	4040140
<b>Capacitor, µF</b>	3
<b>Insulation class, motor</b>	F
<b>Motor protection</b>	IP 44

### DIMENSIONS (mm)



### SOUND DATA

LPKB 200 B, 120 l/s 250 Pa	$L_{pA}$	$L_{WA}$ tot dB (A)	63	125	250	500	1K	2K	4K	8K
<b>Environment</b>	52	59	26	39	51	57	47	47	40	31
<b>Inlet</b>		72	54	62	66	69	59	58	58	49
<b>Outlet</b>		75	56	62	67	71	64	66	62	51

General fan facts, page 22-23.

# ACCESSORIES

## MOUNTING BRACKET-KIT, MB

Mounting Bracket-Kit MB, for easy mounting of CK. The brackets can be mounted horizontally anywhere around the joint of the fan.

MB is available in one size and fits all CK.



## MOUNTING CLAMP, MK

The fan is connected to duct with mounting clamp MK. The mounting clamp is made of galvanized steel sheet with a rubber seal to fit tightly and absorb vibrations.

The mounting clamp makes the

fan easy to remove for cleaning and maintenance.

Available sizes are Ø 100, 125, 150, 160, 200, 250, 300, 315, 400 and 500 mm.

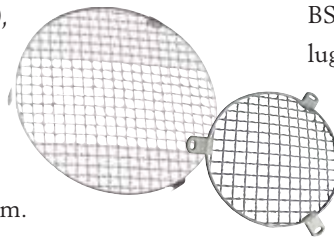


## SAFETY GRILLE, BSV

BSV is a safety grille with angled lugs for mounting on ducts. Should also be used on fans that are not connected to ducts to obtain insulation class IP 44.

BSV is manufactured from galvani-

zed steel mesh and is available in sizes Ø 80, 100, 125, 150, 160, 200, 250, 315, 355, 400, 450, 500, 560, 630, 710 and 800 mm.



## SAFETY GRILLE, BSR

BSR is a safety grille with straight lugs for mounting on flat surfaces.

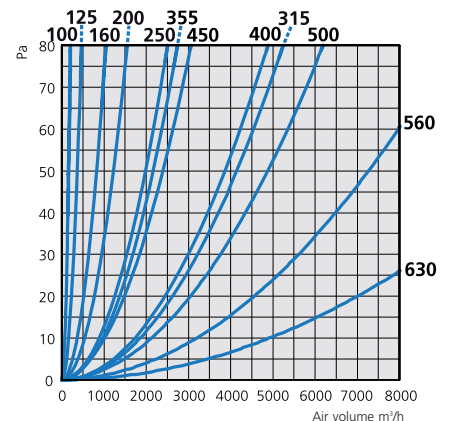
It is manufactured from galvanized steel mesh and is available in sizes Ø 100, 125, 160, 200, 250, 270, 315, 355 and 400 mm.

## BACKDRAUGHT SHUTTER, RSK

RSK is used for circular ducts and is made from galvanized steel with spring-loaded lamina from aluminium. RSK is available in sizes Ø 100, 125, 150, 160, 200, 250, 315, 355, 400, 450, 500, 560 and 630 mm.

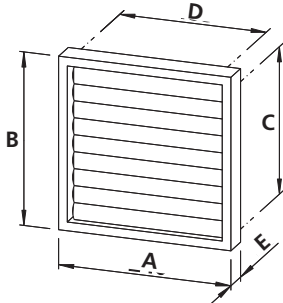


PRESSURE DROP



# ACCESSORIES

**DIMENSIONS VK 160-900 (mm)**



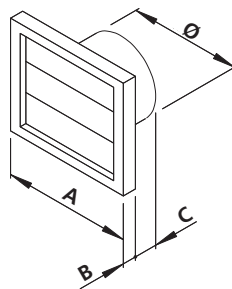
Type	A	B	C	D	E
VK 160	190	190	131	131	25
VK 200	240	240	167	193	28
VK 250	290	290	217	243	28
VK 300	340	340	267	293	28
VK 355	390	390	317	343	28
VK 400	440	440	367	393	28
VK 450	490	490	417	443	30
VK 500	540	540	467	493	30
VK 630	686	690	630	520	40
VK 710	785	785	685	771	40
VK 800	876	885	785	862	40
VK 900	1026	985	885	1012	40



## LOUVRE SHUTTERS, VK

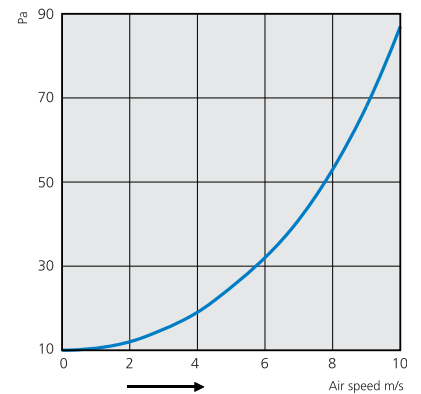
VK self-closing louvre shutters are manufactured from UV-resistant material. They are characterized, among other things, by a very low airflow resistance. For example 10 Pa at 4 m/s air speed, 30 Pa at 6.5 m/s and 50 Pa at 8.5 m/s.

**DIMENSIONS VK 100-125 (mm)**



Type	Ø	A	B	C
VK 100	98	140	15	28
VK 125	120-125	160	20	30

**PRESSURE DROP**



## SILENCER, LDC

LDC is a circular silencer with lengths 600 mm and 900 mm in each size. The silencer consists of a perforated duct, end caps and outer casing, all of galvanized steel. The intervening space is filled with 50 mm stone wool insulation.

The silencer consists of a perforated duct, end caps and outer casing, all of galvanized steel. The intervening space is filled with 50 mm stone wool insulation.

Available in sizes Ø 100, 125, 150, 160, 200, 250 and 315 mm.

**SOUND ATTENUATION**

Dimension x length	Weight, kg	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
LDC 100 x 600 mm	4,1	4	8	14	29	34	41	45	25
LDC 100 x 900 mm	6,6	8	9	19	36	48	50	50	28
LDC 125 x 600 mm	4,6	3	7	12	26	28	37	38	22
LDC 125 x 900 mm	7,7	5	7	17	33	40	48	43	24
LDC 150 x 900 mm	8,0	3	7	13	29	36	47	37	21
LDC 160 x 600 mm	5,7	2	5	10	22	23	33	30	19
LDC 160 x 900 mm	8,9	3	7	13	29	36	47	37	21
LDC 200 x 600 mm	7,2	1	5	9	20	22	29	25	18
LDC 200 x 900 mm	10,2	2	6	12	26	31	44	31	20
LDC 250 x 600 mm	8,8	0	3	8	17	21	24	20	17
LDC 250 x 900 mm	12,5	1	4	10	22	27	39	25	19
LDC 315 x 600 mm	10,2	0	4	7	13	20	20	17	16
LDC 315 x 900 mm	15,6	0	5	9	18	23	32	20	18

# GENERAL FAN FACTS

## DESCRIPTION

- The fan is used for transportation of “clean” air, meaning not intended for fire-dangerous substances, explosives, grinding dust, soot, etc.
- 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 fan-house 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 or a thyristor 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 dirty.

## 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.

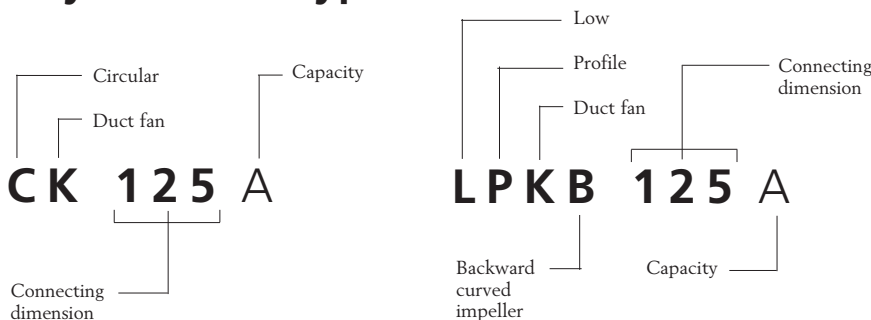
## FAULT DETECTION

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 diagram.
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 use”.

## Key to model types



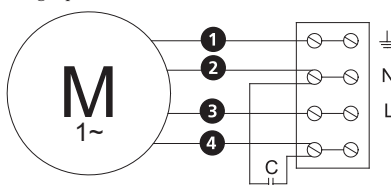
## Temperature of transported air

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 maximum 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 temperature.

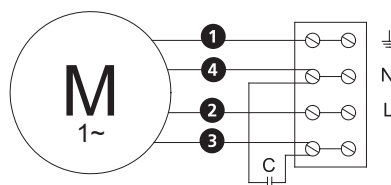
## Wiring diagrams

(M) = Fan Motor 1 = Yellow/Green 2 = Black 3 = Blue 4 = Brown

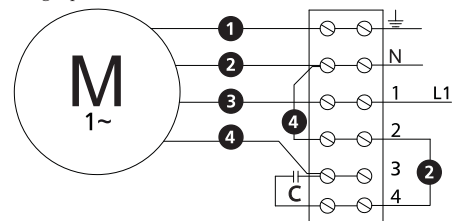
4040001  
Single phase



4040002  
Single phase



4040140  
Single phase



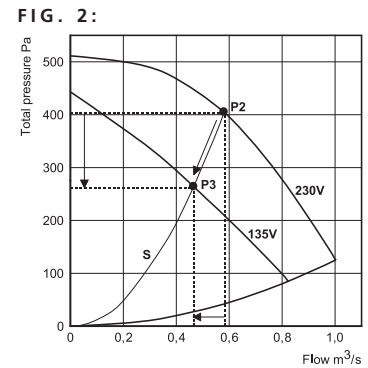
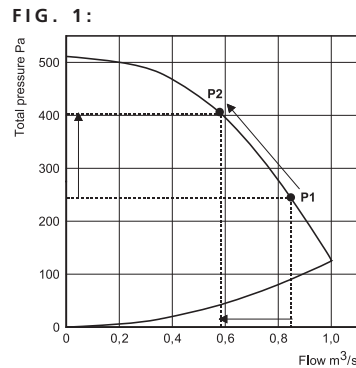
## Pressure/flow-curves explanation

**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, m<sup>3</sup>/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.



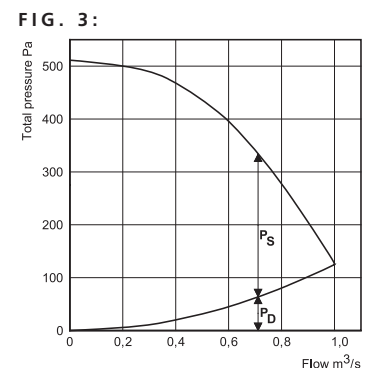
**FIG. 2:**  
The system line describes the total behaviour of a ventilation system (ducts, silencers and valves etc.).

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.

**FIG. 3:**  
Our fan curves present the total pressure in Pascal. Total pressure = Static + Dynamic pressure.

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.



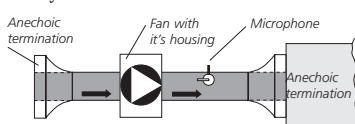
The dynamic pressure is a calculated pressure that arises at the outlet of the fan, and is mostly due to air velocity. The dynamic pressure thus describes how the fan is working. The dynamic pressure is presented with a curve, starting at origo, that increases with increased flow. A high dynamic pressure 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.

## Sound data explanation

### SOUND DATA IN THIS BROCHURE IS BASED ON FOLLOWING DEFINITIONS:

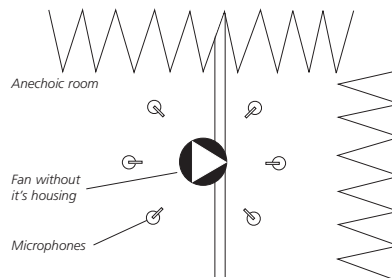
The points for which the sound data is presented are along the system line defined by the pressure and flow stated in the sound data table for each fan. There are three types of sound in these tables; inlet- and outlet sound are measured in duct, while the surrounding sound is measured outside the fan 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. Measurements are made according to ISO 3741 for surrounding sound, or ISO 5136 for sound measured to duct.

Sound measurements at C.A Östberg are made according to ISO-standards and with the fans in their housings because this is close to reality values.



**ISO-method:** Measurement is made in duct with specified design and non-reflecting connection. Measurements and calculations are made in 1/1 octave band.

Measurements of the fan without it's housing resolves in lower sound. The trade association ASHRAE in USA, is stated in Application of Manufacturers Sound Data, that the result of sound measurements of a fan without it's housing is 5-10 dB lower in octave bands from 250 Hz and lower than a fan in it's housing.



**AMCA-method:** Measurement is made of the fan without it's housing in an anechoic room, which results in lower sound level.

### ACCURACY OF MEASUREMENT

When developing the measurement method for the sound power level to duct, the International Standards Organisation, ISO, also analysed the inaccuracy of measurement in different octave band (90 % accuracy).

Octave band (Hz)	63	125	250	500
Inaccuracy (dB)	+5,0	+3,4	+2,6	+2,6
Octave band (Hz)	1000	2000	4000	8000
Inaccuracy (dB)	+2,6	+2,9	+3,6	+5,0

### 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 registers the sound. It is dependent on the sound power level, distance from the source, restrictions of the propagation and the acoustic characteristics of the room.

The sound pressure level is presented for a room with an equivalent absorption area of 20 m<sup>2</sup>. 7 dB difference correspond to a distance of ca 3 m, where the sound is emitted in a semi spherical propagation.

The sound pressure level can be calculated as:  
Lp=Lw + 10 log (Q/4πr<sup>2</sup> + 4/A)

A= is the room's equivalent absorption area

Q= is the propagation type:

Q=1 is spherical propagation

Q=2 is semi spherical propagation

Q=4 is quarter spherical propagation.

For the free field case, i.e. from a roof fan, the sound pressure level is calculated as:

$$Lp=Lw + 10 \log Q/4\pi r^2.$$

With Lw(A) tot at 63dB(A), a distance of 5 meters, semi spherical propagation and free field case, the result will be:

$$Lp(A)= 63 + 10 \log 2/4\pi 5^2 = 63-22= 41 \text{ dB(A)}$$

And at 10 meters:

$$Lp(A)= 63 + 10 \log 2/4\pi 10^2 = 63-28= 35 \text{ dB(A)}$$





## ÖSTBERG

**FOR HEALTHY INDOOR CLIMATE  
WITH ENERGY EFFICIENT VENTILATION**

Östberg is one of leading producers of fans in the world.

In the early 1970s the founder and owner was one of them who invented the first centrifugal in-line duct fan in the history.

We have continued to develop new products and today we offer a wide product range of centrifugal in-line duct fans, roof fans, wall fans and energy recovery units.

Our goal is to always offer quality products at competitive prices.



**AB C.A.ÖSTBERG**

**Production India:  
OSTBERG INDIA PVT. LTD.**