

## KVK Insulated duct fans

### Insulated radial fan for limited spaces



- Design for limited installation height
- Very low noise, acoustic and thermal insulation
- Corrosion resistance of casing C4
- Indoor and outdoor installation
- Easy maintenance, service cover

[Find more details in our online catalogue.](#)

#### Flexibility

The KVK Silent fans **combine** a high efficient **fan** and **casing** with perfect **acoustic** and **thermal** insulation capacity. The KVK Silent fans are intended to use for **supply** or **extract** air, designed to be installed in **any position**. This ensures that the fans can be used in a variety of **commercial and domestic** applications.

#### Reliability

Construction of casing and thermal insulation permits **outdoor** and **indoor** use. The combination of reliable casing and motor construction ensures to minimize the need for maintenance of the fans and allows long **continuous operation**. Thanks to service lid it is **easy to clean**.

#### Performance

**High performance** impeller together with **high efficient** external rotor motor are designed to ensure high-level performance to **minimize power consumption** and **maximize efficiency**.

#### Noise

**Partly** or **fully insulated** casing (depends on model) is perfectly designed to **reduce noise** mainly to **surrounding** and partly to **inlet/outlet**.

### Certifications



Ecodesign (ErP) compliant

## Features

### Construction

Casing of all KVK fans made of **AluZinc 185**, corrosion **class C4**.

**KVK Slim** has acoustically/thermally **insulated lid**. **KVK Silent** has acoustically/thermally **insulated lid and casing**. Insulation made of **rockwool** and has surface liner that prevents the migration of fibers into the airstream.

Casing has connection **spigot** with **rubber seals** and is equipped with an external **terminal box** with protection class **IP54**.

### Impeller

KVK Slim/Silent fans use backward curved **radial** impeller. These are from lightweight, hard-wearing fiberglass reinforced **polyamide** (for sizes up to 250) or reinforced **polypropylene**, dynamically **balanced** and paired with corresponding external rotor motors.

### Motor

Depending on type, fans are equipped with **AC** or high efficient **EC** external rotor motors. All motors are suitable for **50Hz** and **60Hz**.

### Motor protection

Sizes **100-315 mm** with **AC** motors have **integrated** thermal protection with manual (electrical) reset.

Sizes **355-500 mm** with **AC** motors have prewired integral **thermal contacts TK** with leads to external **motor protection device**.

Fans with **EC** motors have an **integrated** electronic **thermal protection**, including **locked-rotor protection** and **soft-start**.

### Control

**EC motor** with **built-in potentiometer** to adjust working point can be also controlled by external **signal 0-10V**.

**AC motor** can be controlled by **5-step** or **stepless** speed regulator.

KVK fans can be **demand controlled** via additional accessories like sensors and controllers for CO<sub>2</sub>, temperature, humidity, presence indication and VAV.

### Installation

KVK Slim/Silent fans can be installed in any position **indoor** and **outdoor**. Circular spigot with rubber seals is perfectly designed to connect to the duct by using **fast clamps preventing vibration** to the duct. A service cover with screw connection and hinges with pins make cleaning and service easy.

## Technical parameters

### Nominal data

Voltage (nominal)	230	V
Frequency	50	Hz
Phases	1~	
Input power	78	W
Input power kW	0.078	kW
Input current	0.346	A
Impeller speed	2,438	rpm
Air flow	max 0.0778	m³/s
Capacitance of capacitor	2	µF
Temperature of transported air	max 60	°C
Max temperature of transported air, when speed controlled	60	°C

### Sound data

Sound pressure level at 3m (20m² Sabin)	40	dB(A)
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### Protection/Classification

Enclosure class, motor	IP44
Insulation class	B

### Data according to ErP

Energy class, Basic unit	E
Energy class, Local demand	C
ErP ready	ErP 2016; ErP 2018

### Dimensions and weights

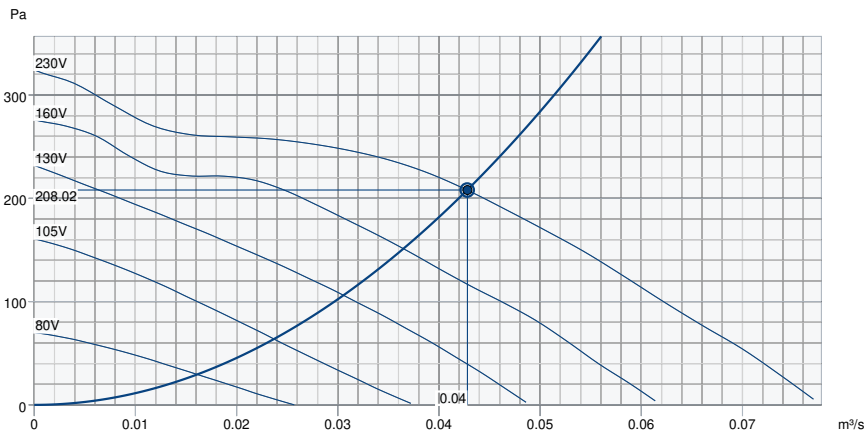
Duct dimension; Circular, inlet	100	mm
Duct dimension; Circular, outlet	100	mm
Weight	5.6	kg

### Others

Duct connection type	Circular
Motor type	AC

Performance

Performance curve



Hydraulic data

Required air flow	0.04 m³/s
Required static pressure	208 Pa
Working air flow	0.04 m³/s
Working static pressure	208 Pa
Air density	1.204 kg/m³
Power	73.2 W
Fan control - RPM	2,551 rpm
Current	0.30 A
SFP	1.710 kW/m³/s
Control voltage	230.0 V
Supply voltage	230 V

Sound power level		63	125	250	500	1k	2k	4k	8k	Total
Inlet	dB(A)	49	62	58	55	52	47	43	38	64
Outlet	dB(A)	57	62	59	61	63	57	50	45	68
Surrounding	dB(A)	21	36	41	39	42	37	28	23	47
Sound pressure level at 3m (20m² Sabine)	dB(A)	-	-	-	-	-	-	-	-	40
Sound pressure level at 3m free field	dB(A)	-	-	-	-	-	-	-	-	26

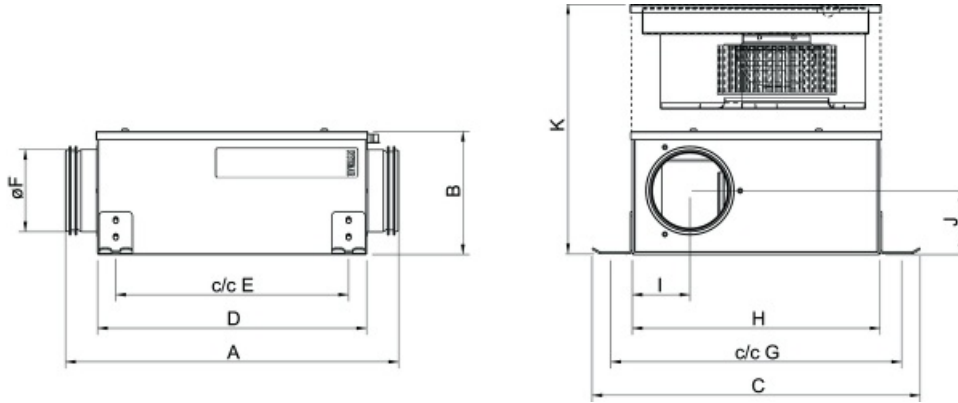
**Ecodesign**

<b>Product</b>	
Trade name	Systemair
Product name	KVO 100 Circular duct fan
<b>Basic unit</b>	
ErP compliance	2016
SEC Average	-10 kWh/(m <sup>2</sup> .a)
SEC Cold	-26.4 kWh/(m <sup>2</sup> .a)
SEC Warm	-0.6 kWh/(m <sup>2</sup> .a)
SEC Class	E
Unit category	RVU
Unit type	UVU
Drive	External MSD or VSD
Heat recovery type	None
Temperature ratio (UVU)	Not applicable
qv max	223 m <sup>3</sup> /h
P max	75 W
Sound power (LWA)	39 dB(A)
qv ref	0.044 m <sup>3</sup> /s
Ps ref	50 Pa
SPI	0.228 W/(m <sup>3</sup> /h)
CTRL	1
MISC	1.1
x-value	1.5
External Leakage	5 %
AEC average	285.1 kWh
AHS Cold	285.1 kWh
AEC warm	285.1 kWh
AHS Average	1,715.2 kWh/a
AHS Cold	3,355.3 kWh/a
AHS Warm	775.6 kWh/a

**Units with local demand control**

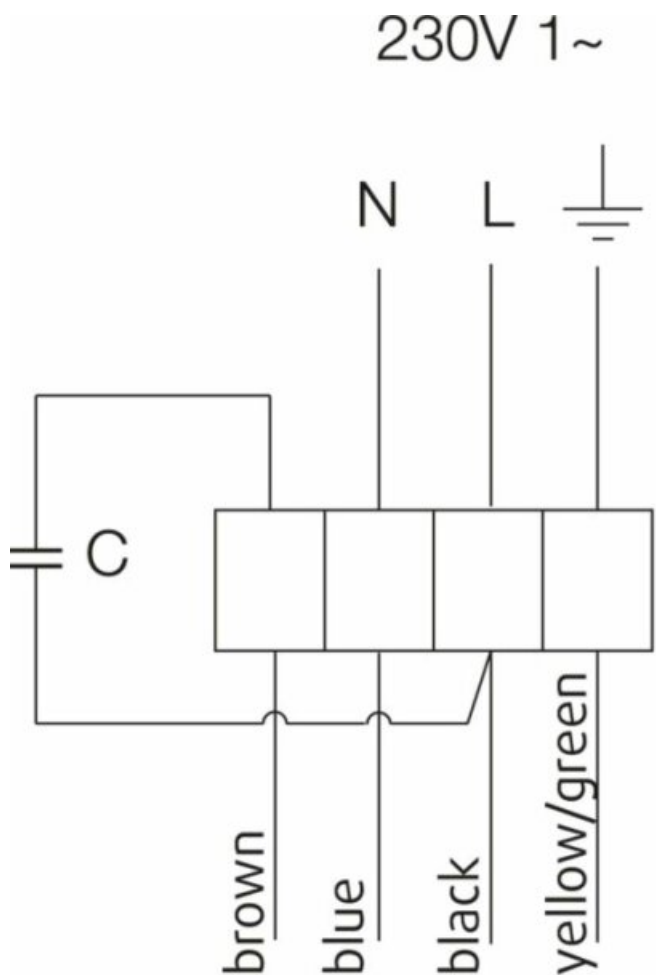
ErP compliance	2018	
SEC Average	-24.6	kWh/(m <sup>2</sup> .a)
SEC Cold	-51.6	kWh/(m <sup>2</sup> .a)
SEC Warm	-9.1	kWh/(m <sup>2</sup> .a)
SEC Class	C	
Unit category	RVU	
Unit type	UVU	
Drive	External MSD or VSD	
Heat recovery type	None	
Temperature ratio (UVU)	Not applicable	
qv max	224	m <sup>3</sup> /h
P max	75	W
Sound power (LWA)	39	dB(A)
qv ref	0.0436	m <sup>3</sup> /s
Ps ref	50	Pa
SPI	0.228	W/(m <sup>3</sup> /h)
CTRL	0.65	
MISC	1.1	
x-value	1.5	
External Leakage	5	%
AEC average	149.4	kWh
AEC cold	149.4	kWh
AEC warm	149.4	kWh
AHS Average	2,830	kWh/a
AHS Cold	5,536.2	kWh/a
AHS Warm	1,279.7	kWh/a

**Dimension**



	A	B	C	D	E	øF	G	H	I	J	K
KVK Slim 100	400	150	392	325	278	98	348	300	69	76	300
KVK Slim 125	400	150	392	325	278	123	348	300	84	72	300
KVK Slim 160	400	185	392	325	278	158	348	300	99	90	370
KVK Slim100 EC	400	150	392	325	278	98	348	300	69	76	300
KVK Slim120 EC	400	150	392	325	278	123	348	300	84	72	300
KVK Slim160 EC	400	185	392	325	278	158	348	300	99	90	370

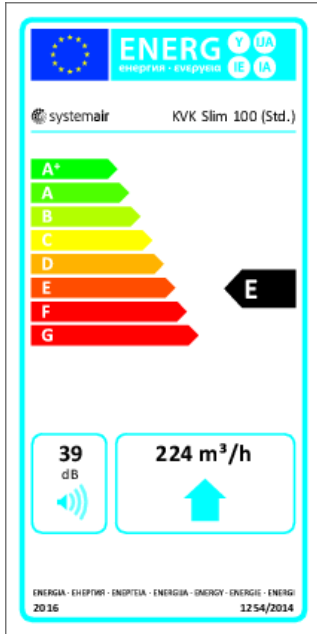
### Wiring



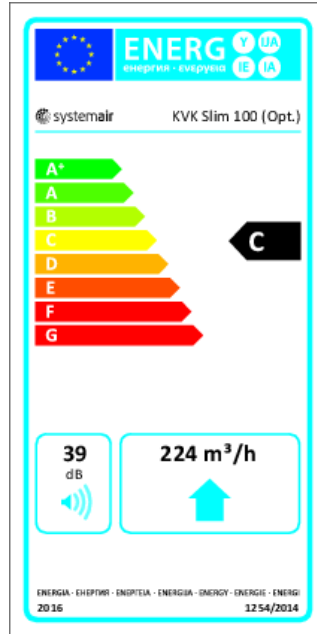


## Energy class label

### Energy class, Basic unit



### Energy class, Local demand



## Accessories

- Frequency converter FRQ5SE-6A (37421)
- REE 1 Speed control (5314)
- REV-3POL/03-7,5kW R/Y (33978)
- VKK-100 Back draft damper (1623)
- Frequency converter FRQSE-6A (37419)
- VBC 125-3 Water heating batt (9839)
- CB 100-0,6 230V/1 Duct heater (5376)
- CBMF 100-0,6 230V/1 Duct heater (12241)
- FFR 100 Filter cassette (1766)
- FK 100 Fast clamp (1607)
- LDC 100-600 Silencer (5188)
- RSK-100 Back draft damper (5597)
- VBF 100 Water heating battery (1724)
- IGC-100 Intake grille (76874)
- RE 1,5 Speed control (5000)
- REU 1.5 Speed control (5004)
- SG 100 Protection guard (5606)
- DTV500A (96807)
- IGK-100 Wall Grid (1630)
- CB 100-0,4 230V/1 Duct heater (5288)
- CBM 100-0,6 230V/1 Duct heater (5479)
- CWK 100-3-2,5 Duct cooler,circ (30019)
- FGR 100 Filter cassette (1802)
- LDC 100-300 Silencer (8180)
- LDC 100-900 Silencer (5189)
- VBC 100-2 Water heating batt (5456)
- VK-10 Louvre shutter (87682)

## Documents

- [INSTALLATION\\_\\_OPERATION\\_AND\\_MAINTENANCE\\_INSTRUCTION\\_KV\\_DUO\\_\\_KVK\\_DUO\\_\\_KVK\\_003\\_\\_EN.PDF](#)
- [COMMISSIONING\\_RECORD\\_FANS\\_\\_EN.PDF](#)