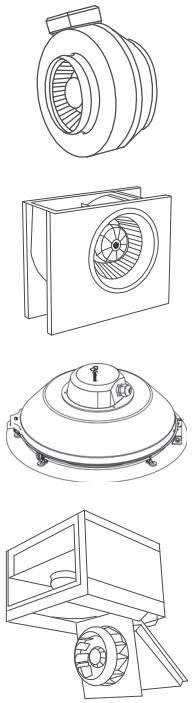
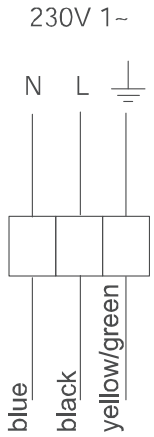
Fans



Fan Type	Diagram	Fan Type	Diagram
CE 140 only	2	KVK DUO	5
CE 200 only	5	KVKE-series	4
CE-series (all other sizes)	6	KVKF/KVO 125-315	2
CKS-series 1~	6	KVKF/KVO 355-400	6
CKS-series 3~	8	RS 30-15 to 50-25	2
CT 200	7	RS-series 1~ (all other sizes)	6
CT-series (all other sizes)	8	RS-series 60-35 to 100-50, 3~	8
K-series K/KV 100/125 M	1	RSI-series 1~	6
K-series (K/KV other sizes)	2	RSI-series 60-35 to 100-50, 3~	8
KD 200L to 355S	2	RVF 100M	1
KD-series 1~ (all other sizes)	6	RVF 100XL	2
KD-series 3~	8	TFE 220	2
KDRD-series	8	TFER 125M only	1
KDRE-series	6	TFER 125XL-315	2
KE 40-20 only	5	TFSR 125M - 315L	1
KE-series (all other sizes)	6	TFSK 125M – 315L	1
KT 40-20 only	7	TOV-series	8
KT-series (all other sizes)	8	TOE-series	6
KVK 125-160	2		
KVK 200-400	5		
KVK 500	3		

1



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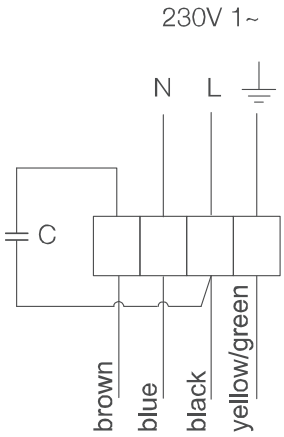

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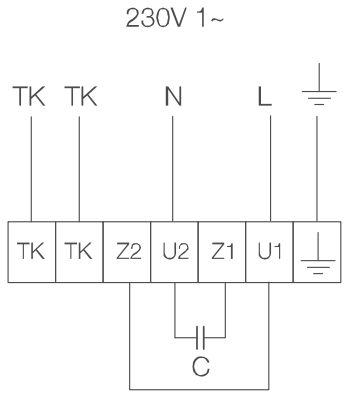

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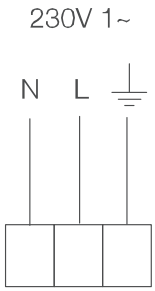

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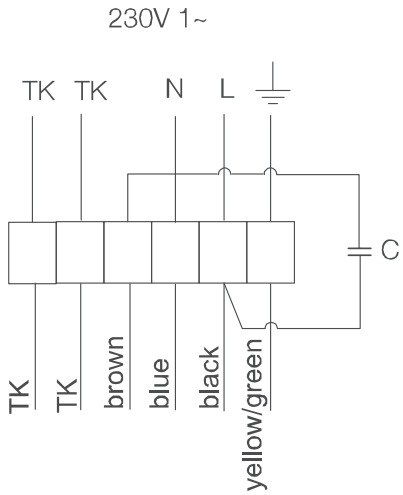

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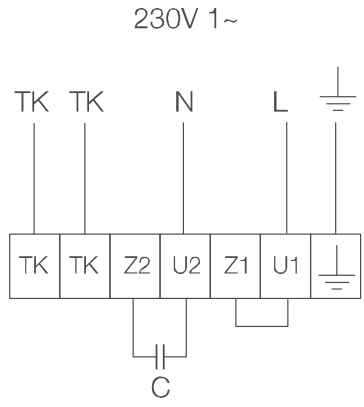
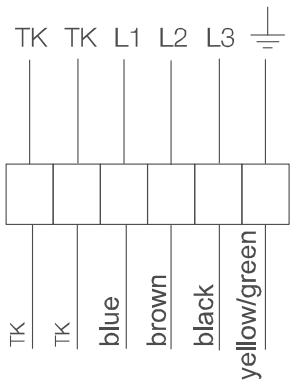


7

400V 3~



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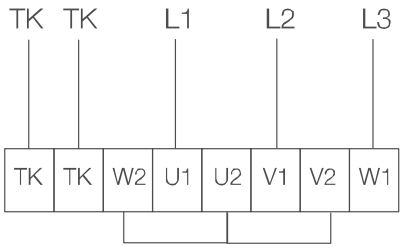
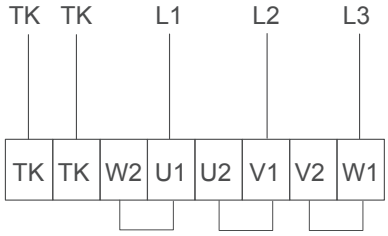
400V 3~



8

230V 3~ (D)



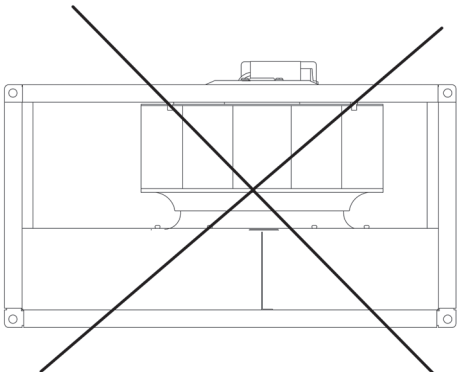
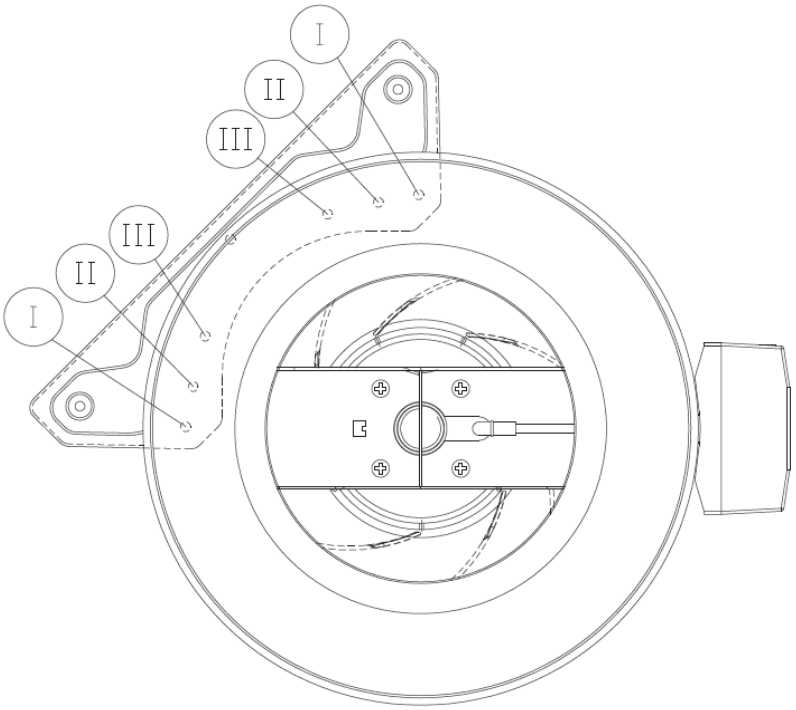


fig. 1



TYPE	Screw
K 100 M	III
K 125 M	III
K 100/125 XL	I
K 150/160 M	II
K 150/160 XL	I+III
K 200/250 M	I+II
K 200/250 L	I+II
K 315/12 M/L	I+II

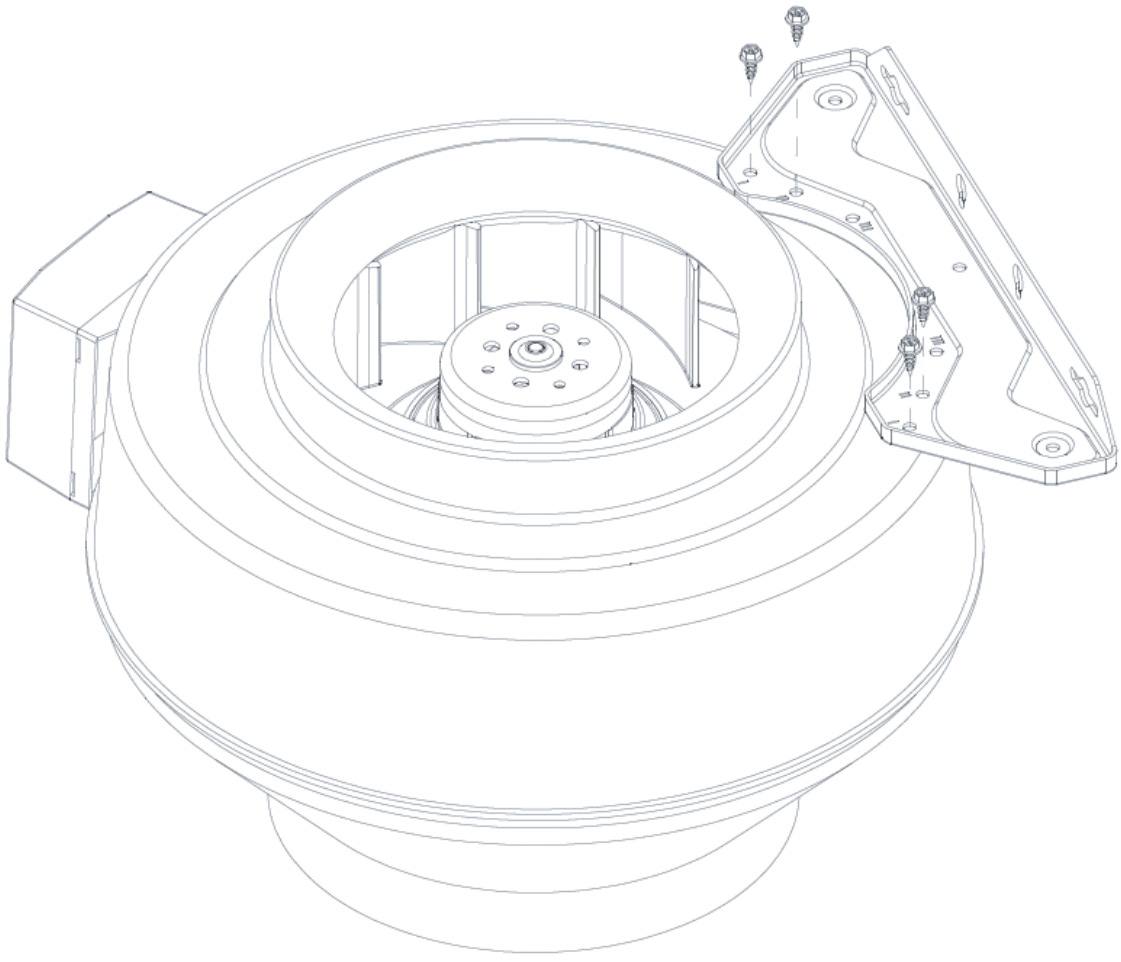


Fig 2

Declaration of Conformity

Manufacturer

Systemair AB
Industrivägen 3
SE-73930 Skinnskatteberg SWEDEN
Office: +46 222 440 00 Fax: +46 222 440 99
www.systemair.com

hereby confirms that the following products:

Duct fans with circular connection:	K100 – K315L, KD200 L1 – KD500 M3, KVO100 – KVO400
Insulated duct fans with circular connection:	KVKE125 – KVKE315L, KVK125 – KVK 500, KVK125DUO – KVK500DUO
Wall mounted fans with circular connection:	KV100M – KV315L, RVF100M, RVF100XL
Duct fans with rectangular connection:	KE/KT40-20-4 – KE/KT100-50-8, RS/RSI30-15L – RS/RSI100-50L3, KDRE/KDRD45 – KDRE/KDRD70
Roof fans with circular or square connection:	TFSR/TFSK125M - TFSR/TFSK315L, TFE220S/M, TOE/TOV355-4 - TOE/TOV560-4
Kitchen fans:	Essvent S/L, KFB140S/L
Radial fans:	CE140S-125 – CE140L-160, CE/CT200-4 – CE/CT450-6, CKS355-1 – CKS560-3

(The declaration applies only to product in the condition it was delivered in and installed in the facility in accordance with the included installation instructions. The insurance does not cover components that are added or actions carried out subsequently on the product)

Comply with all applicable requirements in the following directives

- **Machinery Directive 2006/42/EC**
- **Low Voltage Directive 2006/95/EC**
- **EMC Directive 2004/108/EC**

The following harmonized standards are applied in applicable parts:

EN ISO 12100-1	Safety of machinery – Basic concepts, general principles for design – Part 1: Basic terminology, methodology
EN ISO 12100-2	Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles
EN 14121-1:2007	Safety of machinery – Risk assessment – Part 1: Principles
EN 13857	Safety of machinery – Safety distances to prevent hazard zones beingreached by upper or lower limbs
EN 60 335-1	Household and similar electrical appliances – Safety Part 1: General requirements
EN 60 335-2-80	Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans
EN 50 366-1	Household and similar electrical appliances – Electromagnetic fields – Methods for evaluations and measurement
EN 50 106:2007	Safety of household and similar appliances – Particular rules for routine tests referring to appliances under the scope of EN 60 335-1 and EN 60967
EN 60 034-5	Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code)
EN 60 204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements
EN 61000-6-2	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
EN 61000-6-3	Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standards for residential, commercial and light-industrial environments

Skinnskattberg 30-12-2011

Mats Sándor
Technical Director

Safety Information

This machinery must not be put into operation until prior to reading mounting instructions and safety information. All fans are intended for transportation of air in air handling systems. If installed in non-heated rooms, the fan casing has to be insulated in order to avoid condensation. They are meant to be used after building them into machines or duct systems or after contact protection grid has been installed. (EN ISO 13857). Fans with duct connections must be connected to ducts on both sides (inlet/outlet). When there is a risk of water entering the motor, via the ducts, external protection is required. No moving parts shall be accessible after installation. The fans are not to be used in hazardous environments or connected to flue ducts. The fans must not be installed outdoors, (with exception of roof fans and fans with, for this purpose, corresponding IP class). If the fans are installed without insulation in non-heated areas there is a risk of condensation. Safety accessories (i.e. motor protection, safety grille) may not be dismounted, short cut or disconnected. CAUTION Before servicing or maintenance, switch off power, (all-pole circuit breaker), and make sure the impeller has come a standstill. CAUTION The fans can have sharp edges and corners which may cause injuries. CAUTION Be careful when opening the fans service-hatches (swing-out), the fan and motor assembled on the hatch is relatively heavy.

Transportation and Storage

All fans are packaged at the factory to withstand normal transport handling. When handling the goods use suitable lifting equipment in order to avoid damage to fans and personnel. Do not lift the fans by the connecting cable, connection box, impeller or inlet cone. Avoid blows and shock loads. Store the fans in a dry place protected from weather and dirt until final installation.

Installation

Refer to Safety information above. Installation, electrical connection and commissioning are only to be carried out by authorised personnel and in accordance with requirements and demands. Electrical connections are made according to the wiring diagram in the terminal box, markings on terminal blocks or on cable. All 3 phase fans are delivered from factory in 400V 3~ connection. CAUTION Do not use metal compression gland fittings with plastic terminal boxes. Use a dummy plug seal for the compression gland fitting as well. The K-fan must be installed with the connection box at the top of the unit ± 90 degrees. If permanent installation is carried out using cables with diameter 12-14 mm, the entrance bushing must be replaced (applies to type K, KV, RVF and KVK 125/160). To preserve IP44 the RS fans must not be mounted with the connection box/motor plate upwards (fig.1). Fans with thermal contacts with external leads (TK) must always be connected to external motor protection. Assemble the fan in the direction of airflow (see arrow on unit). The fan must be installed so that vibrations are not transmitted to duct systems or frame of building. (Suitable accessories like fast clamps and diffusers are available). Make sure the assembly of the fan is firmly fixed and stable (**Fig 2)**. The fan can be mounted in any direction unless stated otherwise. The fans must be assembled so that service and maintenance can be performed easily and safely. Disturbing noise can be avoided by installing silencer (available accessory).
For frequency regulation an all pole sinus filter must be mounted between motor and frequency controller (version all poles: phase to phase, phase to earth). Fans are meant for continuous use within the temperature range stated.
Fans with manual thermal contacts (reset by cutting the current, motor protection SP1), must be taken into consideration when connecting surrounding equipment with automatic on/off function.

Operation

Before initial operation, check the following:
- Electrical connection has been properly completed.
- Protective conductor has been connected.
- Motor protection installed.
- Safety devices in place (protection grid)
- Leftover installation materials and foreign materials have been removed from the casing.

When putting into operation, check thefollowing:
- Connection data corresponds to the specifications on the nameplate: Maximum voltage +6%, -10%, according to IEC 38. Rated current must not be exceeded with more than 5% at rated voltage. CAUTION When speed regulating by reducing the voltage the motor current may exceed the rated current at a lower voltage. In this case the motor windings are protected by the thermal contact. The minimum static fall of pressure must observed.
- That the motor protection is functional. The direction of rotation should correspond to direction-of-rotation arrow (3 phase).
- Smoothness of motor operation, (no abnormal noises).
-This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Sound levels exceeding 70 dB(A) may occur depending on model and size (see online catalogue at www.systemair.com for detailed information)

Maintenance, Service and Repair

Before maintenance, service or repair make sure that:
- Power supply is interrupted (all-pole circuit breaker).
- Fan impeller has come to a complete standstill
- Observe personnel safety regulations!
- If the supply cord is damage, it must be replaced by the manufacturer, its service agent or similarly qualified persons i order to avoid a hazard.

The fan should be cleaned when necessary, at least 1/year to avoid imbalance and unnecessary damage to the bearings. A filter will prolong the time interval between each cleaning of the fan. (It is sometimes recommended to install a filter guard). The fan bearings are maintenance free and should only be replaced if

damaged. Do not use a high-pressure cleaner (steam jet) when cleaning the fan. Make sure the fan impeller's balance weights are not moved or the fan impeller distorted. Listen for abnormal operating noise.

Resetting of the thermal trips

Manual thermal trips (SP1) are reset by disconnecting the mains for approx. 10-20min.

Fans with external leads for thermal trips (TK) are reset from the external motor protection. This protection may not have automatic resetting.

Make sure the fan has not been blocked or that the motor protection has tripped. Contact the supplier if the motor does not start after controlling and/or resetting the motor protection.