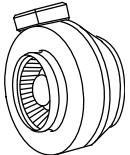


Fans

**GB**

Operation and maintenance instructions 5

TR

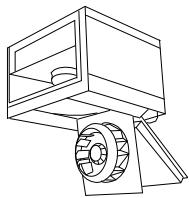
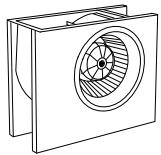
İşletim ve Bakım Klavuzu 8

RU

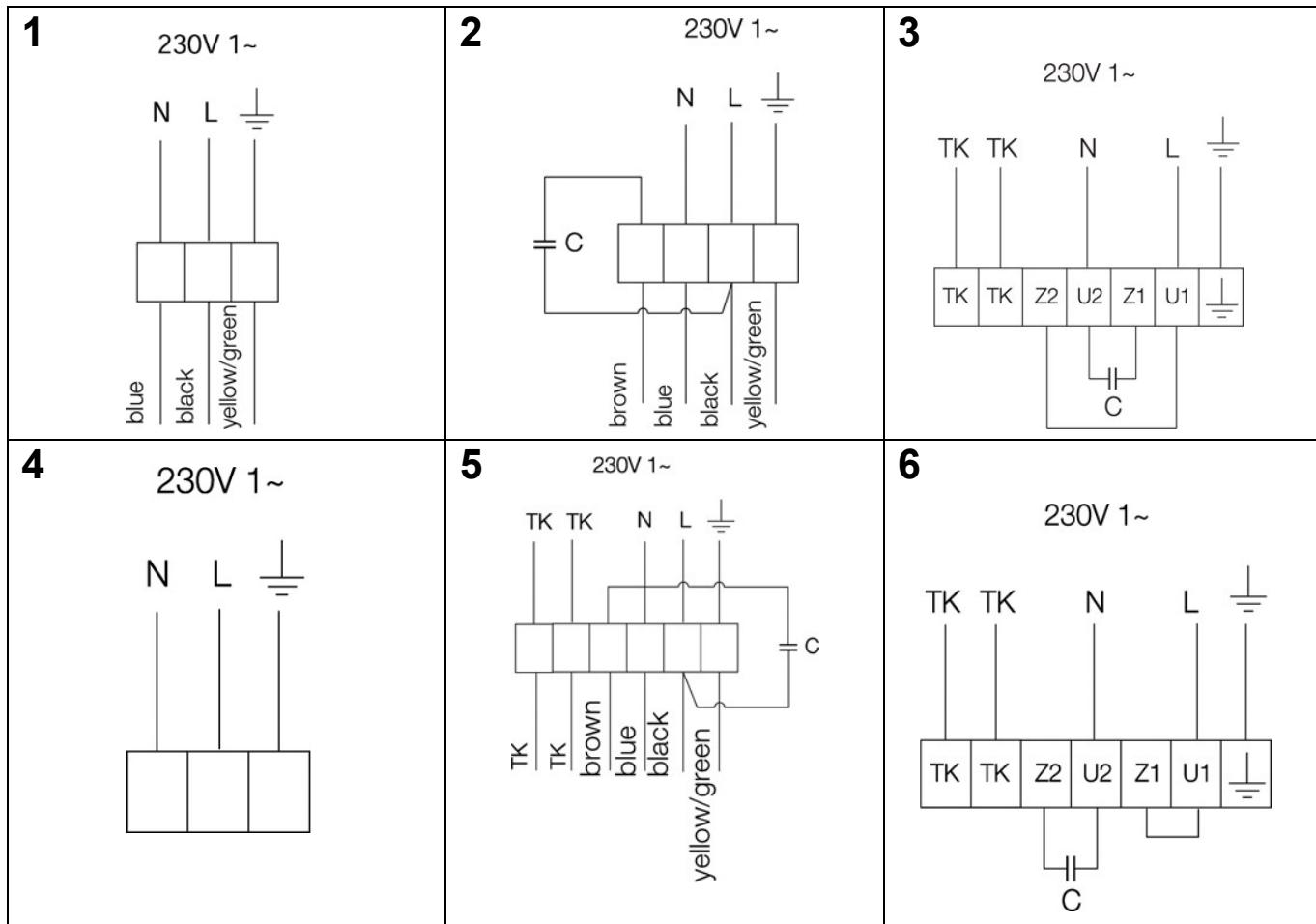
Инструкция по монтажу 11

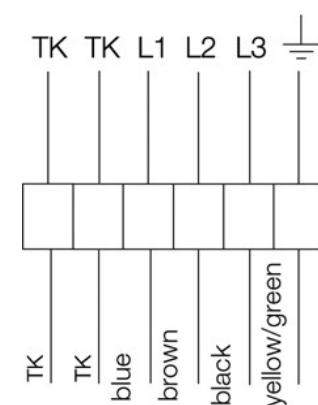
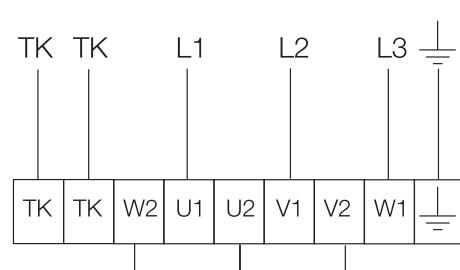
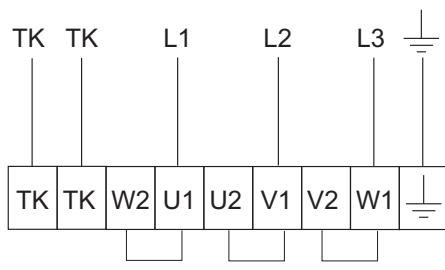
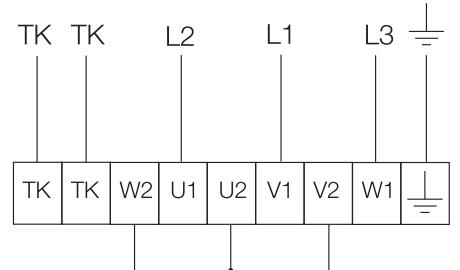
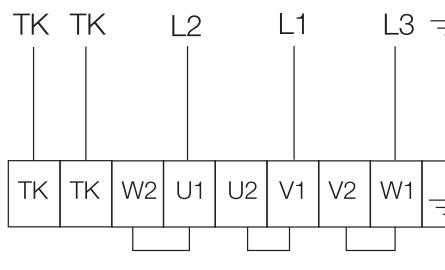
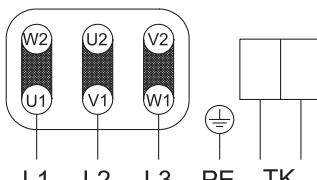
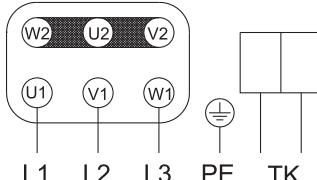
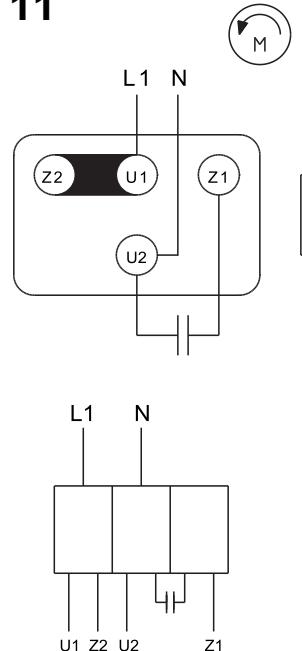
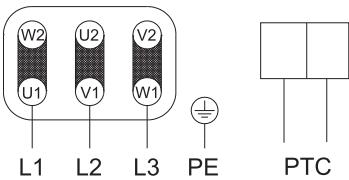
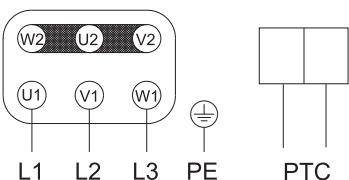
RS

Uputstvo za upotrebu i odrzavanje 14



Fan Type	Diagram	Fan Type	Diagram
CE 140 only	2	KVK 500 1~	3
CE 200 only	5	KVK 500 3~	9
CE-series (all other sizes)	6	KVK DUO	5
CKS-560-3	8	KVKE-series	4
CT 200	7	KVKF/KVO 125-315	2
CT-series (all other sizes)	8	KVKF/KVO 355-400	6
K-series K/KV 100/125 M	1	KVO 3~	8
K-series (K/KV other sizes)	2	RS 30-15 to 50-25	2
KBT 160DV, 200DV	10	RS-series 1~ (all other sizes)	6
KBT 160E4-250E4	11	RS-series 60-35 to 100-50, 3~	8
KBT 250D4 IE2-280D4 IE2	12	RSI-series 1~	6
KD 200L to 355S	2	RSI-series 60-35 to 100-50, 3~	8
KD-series 1~ (all other sizes)	6	RVF 100M	1
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		



7 400V 3~  <p>TK TK blue brown black yellow/green</p>	8 400V 3~ 	230V 3~ (D) 
	9 400V 3~ 	230V 3~ (D) 
10  	11 	12 $\Delta \quad 3 \times 230V$  $Y \quad 3 \times 400V$ 

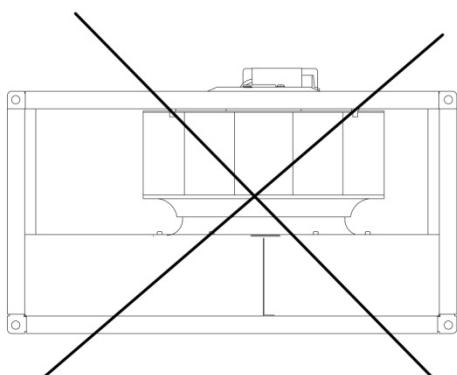


Fig. 1

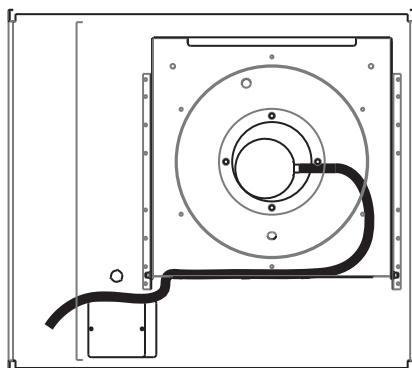
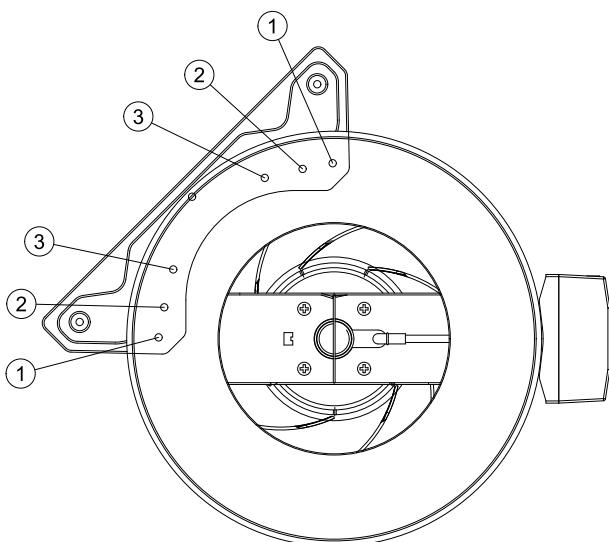


Fig 2



Type	Screw
K 100 M	3
K 125 M	3
K 100/125 XL	1
K 150/160 M	2
K 150/160 XL	1+3
K 200/250 M	1+2
K 200/250 L	1-2
K 315/12 M/L	1+2

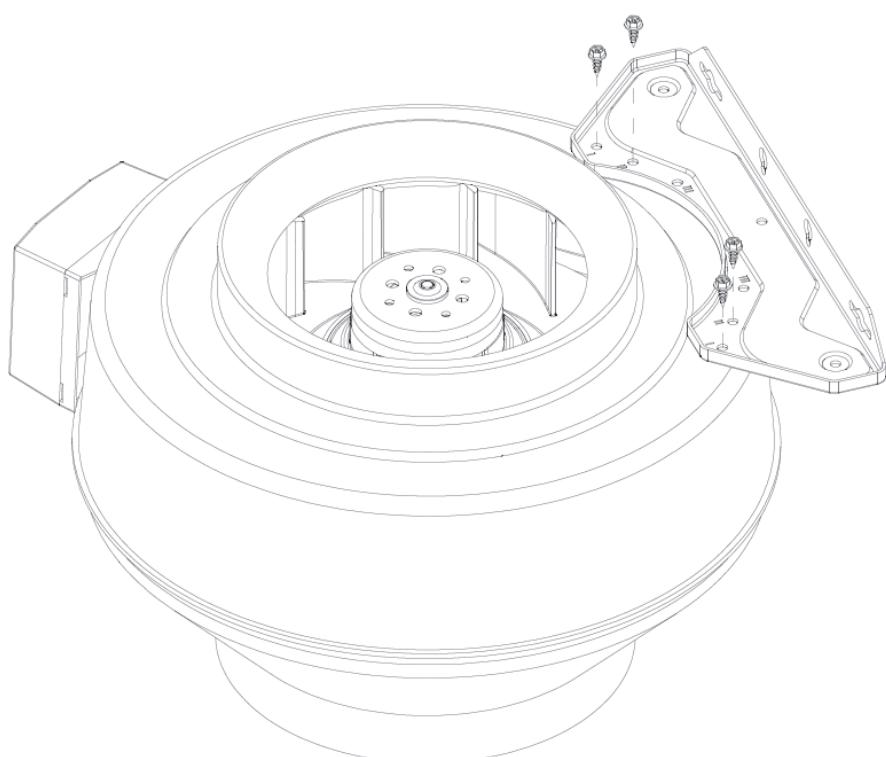


Fig 3

Manufacturer

Systemair Sverige 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:	K 100 – 315L, 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:	KV 100M – 315L, RVF100M
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-125, CE140M-160, CE140L-160, CT225-4, CT250-4, CT280-4, CT315-4, CT355-4, CKS560-3
Thermo fans:	KBT 160DV, 200DV, KBT 160E4-250E4, KBT 250D4 IE2-280D4 IE2

(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 2014/35/EU	EMC Directive 2014/30/EU
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The following harmonized standards are applied in applicable parts:

- EN ISO 12100:2010** Safety of machinery – General principles for design – Risk assessment and risk reduction.
- EN 13857** Safety of machinery – Safety distances to prevent hazard zones being reached 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 62233** Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure.
- 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 60529** Degrees of protection provided by enclosures (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 15-03-2016



Mats Sándor
Technical Director

Safety Information

This machinery must not be put into operation 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 for use once built into machinery or ducted systems and after a protection grid has been installed. (EN ISO 13857). Fans with duct connections must be connected to ducts on both sides (inlet/outlet). Should there be a risk of water entering the motor, via the ducts, external motor 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, with corresponding IP class). Fans installed without insulation in non-heated areas bear a risk a risk of condensation. Safety accessories (i.e. motor protection, safety grille) may not be removed, short circuited or disconnected.

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.

Precautions must be taken to prevent the backflow of exhaust gases from flues from other appliances installed in the same room, which are fired by gas or other fuels.

The appliance must be connected to a mains circuit breaker in the fixed installation

CAUTION! Before servicing or maintenance, switch off power, (all-pole circuit breaker), and make sure the impeller has come to 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. **CAUTION!** Electrical reset.

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. Seal any empty cable glands with dummy plugs. 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 bush 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 to ensure that any vibration is not transmitted via the duct system or frame of the building. (Suitable accessories such as fast clamps and diffusers are available). Make sure the assembly of the fan is firmly fixed and stable (**Fig 3**). The fan can be mounted in any direction unless stated otherwise. The fans must be installed to ensure that service and maintenance can be performed easily and safely. Disturbing noise can be reduced by installing silencers (available as an accessory). When using 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 disconnecting the power, motor protection SP1), must be taken into consideration when connecting surrounding equipment with automatic on/off function. Recomended wiring for KT fans (**Fig 2**).

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 the following:

- 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 be 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).
- Failure to connect the thermal motor protection will result in all warranties being null and void.
- TFE 220 is adapted to continuous operation. 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

Prior to maintenance, service or repair, ensure that:

- Power supply is interrupted (all-pole circuit breaker).
- Fan impeller has come to a complete standstill
- Observe personnel safety regulations!
- Should the supply cable be damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in 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. Ensure that 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. 10-20 min.

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.

Üretici

Systemair Sverige AB
 Industrivägen 3
 SE-73930 Skinnskatteberg İSVEÇ
 Tel: +46 222 440 00 Faks: +46 222 440 99
www.systemair.com

Üretici, aşağıda belirtilen ürünlerin kriterlere uygunluğunu onaylar:

Dairesel bağlantılı kanal fanları:	K 100 – 315L, KD200 L1 – KD500 M3, KVO100 – KVO400
Dairesel bağlantılı ve izolasyonlu kanal fanları:	KVKE125 – KVKE315L, KVK125 – KVK 500, KVK125DUO – KVK500DUO
Dairesel bağlantılı duvara montajlı fanlar:	KV 100M – 315L, RVF100M
Dikdörtgen bağlantılı kanal fanları:	KE/KT40-20-4 – KE/KT100-50-8, RS/RSI30-15L – RS/RSI100-50L3, KDRE/KDRD45 – KDRE/KDRD70
Dairesel ya da kare bağlantılı çatı fanları:	TFSR/TFSK125M – TFSR/TFSK315L, TFE220S/M, TOE/TOV355-4 – TOE/TOV560-4
Mutfak fanları:	Essvent S/L, KFB140S/L
Radyal fanlar:	CE140S-125, CE140L-125, CE140M-160, CE140L-160, CT225-4, CT250-4, CT280-4, CT315-4, CT355-4, CKS560-3
Termo fanlar:	KBT 160DV, 200DV, KBT 160E4-250E4, KBT 250D4 IE2- 280D4 IE2

(Bu bildirge, sadece teslimat ve tesise montaj işlemleri belirtilen kurulum direktiflerine uygun şekilde yapılan ürünler için geçerlidir. Sigorta, sonradan ürün üzerinde yapılan işlemleri ya da ilave edilen bileşenleri kapsamaz)

Aşağıdaki direktiflerde yer alan geçerli bütün kriterleri karşılar

Makine Direktifi 2006/42/EC	Alçak Gerilim Direktifi 2014/35/EC	EMC Direktifi 2014/30/EC
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Adaptasyonu sağlanmış aşağıdaki standartlar, ilgili parçalar için geçerlidir:

- EN ISO 12100:2010** Makinelerin güvenliği – Genel tasarım prensipleri – Risk değerlendirmesi ve risk azalması.
- EN 13857** Makinelerin güvenliği – Tehlikeli alanların, vücutun üst veya alt uzuvalarına ulaşmasını önlemek üzere makinelerden uzak durulması gereken güvenli mesafe.
- EN 60 335-1** Ev ve benzeri yerlerde kullanılan elektrikli cihazlar – Güvenlik Bölüm 1: Genel kurallar.
- EN 60 335-2-80** Ev ve benzeri yerlerde kullanılan elektrikli cihazlar – Güvenlik – Bölüm 2-80: Fanlar için özel kurallar.
- EN 62233** Ev aletlerinin ve ilgili benzeri cihazların, insanın maruz kalacağı elektromanyetik alanları için ölçüm yöntemleri.
- EN 50 106:2007** Ev ve benzeri yerlerde kullanılan cihazların güvenliği - EN 60 335-1 ve EN 60 967 kapsamı altındaki cihazlara ilişkin olağan testler için özel kurallar.
- EN 60529** Muhafazalar vasıtıyla sağlanan koruma dereceleri (IP Kodu).
- EN 60 204-1** Makinelerin güvenliği – Makinelerin elektrik donanımı – Bölüm 1: Genel kurallar
- EN 61000-6-2** Elektromanyetik uyumluluk (EMC) – Bölüm 6-2: Jenerik standartlar – Endüstriyel ortamlar için muafiyet.
- EN 61000-6-3** Elektromanyetik uyumluluk (EMC) – Bölüm 6-3: Jenerik standartlar – Yerleşim birimleri, ticari ve hafif sanayi ortamları için emisyon standartları.

Skinnskattberg 15-03-2016



Mats Sándor
 Teknik Müdür

Güvenlik Bilgisi

Bu makine, montaj talimatları ve emniyet bilgileri okunmadan çalıştırılmaya başlatılmamalıdır. Tüm fanlar, havadan elleçleme sistemlerinin hava taşımı için amaçlanmıştır. Eğer ısıtılmayan odalara kurulursa, yoğuşmayı önlemek için fan muhafazasının yalıtilması gereklidir. Bunlar, makine ya da kanallı sistemlerin içerisine bir kez kurulduktan ve bir koruyucu izgara takıldıktan sonra kullanım için amaçlanmıştır. (EN ISO 13857). Kanal bağlantıları olan fanlar, kanallara her iki taraftan (girişten/çıkıştan) bağlanmalıdır. Motora su girmesi riskinin söz konusu olduğu durumlarda, kanallar yoluyla, harici motor koruması gereklidir. Montajdan sonra herhangi hareketli parçaya ulaşılamaz. Fanlar tehlikeli ortamlarda kullanılmayacak veya baca kanallarına bağlanmayacaktır. Fanlar, bina dışı ortamlara monte edilmemelidir, (çatı fanları ve bu maksatla, karşılık gelen IP sınıfındaki fanlar istisnadır). Isıtılmayan sahalarda yalıtımsız olarak kurulu fanlar, yoğuşma oluşumu riski taşırlar. Emniyet aksesuarları (örneğin motor koruması, emniyet izgarası) sökülemez, kısa devre edilemez ya da devre dışı edilemezler. Bu cihaz, eğer cihazın emniyetli bir şekilde kullanılmasına dair denetim veya talimat verilir ve söz konusu tehlikeler anlaşılır ise, 8 yaş ve üzeri çocuklar, azalmış fiziksel, duyusal ve zihni melekeleri olan ya da bilgi ve deneyim eksikliği olan kişiler tarafından kullanılabilir. Çocuklar, cihaz ile oynamamalıdır. Gözetim olmaksızın temizlik ve kullanıcı bakımı çocuklar tarafından yapılmayacaktır. Gaz veya diğer yakıtlar tarafından tutuşturulan, aynı oda içerisinde kurulu diğer cihazlardan gelen havalandırma bacalarından gelebilecek boşaltma gazlarının geriye doğru akışını önlemek üzere tedbirler alınmalıdır. Cihaz, tespit edilmiş bir montaj içerisindeki şebekе şalterine bağlanmalıdır. DİKKAT! Servis verilmesi veya bakımından önce, gücü kapatınız, (tam kutuplu şalter) ve pervanenin hareketsiz duruma geldiğinden emin olunuz. DİKKAT! Fanların, yaralanmalara neden olabilecek keskin kenarlar ve köşeleri olabilir. DİKKAT! Fanların servis kapağını (dışarı açılır) açarken dikkatli olunuz, kapak üzerine monte edilmiş fan ve motoru nispeten ağırdır. DİKKAT! Elektrik sıfırlama.

Taşıma ve Depolama

Tüm fanlar, normal taşımeye, ele alınmaya dayanacak şekilde fabrikada ambalajlanmıştır. Malları tutarken, fanlara ve personele zarar gelmesini önlemek üzere uygun kaldırma teçhizatı kullanınız. Kablo, bağlantı kutusu, pervane veya giriş konisi bağlanarak fanları kaldırımayınız. Püskürtme ve darbeli (sarsıntılı) yüklerden kaçınınız. Fanları, nihai montaja kadar hava şartları ve kire karşı korunmuş kuru bir yerde saklayınız.

Montaj

Yukarıdaki Güvenlik bilgilerine bakın. Montaj, elektriksel bağlantı ve devreye alma ancak kurallara ve taleplere uygun olarak yetkili personel tarafından gerçekleştirilmelidir. Elektriksel bağlantılar, bağlantı kutusu içerisindeki tesisat şeması, bağlantı blokları veya kablo üzerindeki işaretlere uygun olarak yapılacaktır. 3 fazlı fanların tümü, fabrikadan 400V 3~ bağlantılı halde teslim edilir. Varsa boş kablo rakkalarını kör tapalar kullanarak kapatın. K-fanı, ünitenin üstündeki bağlantı kutusuna ± 90 derece açıda monte edilmelidir. Eğer 12-14 mm çaplı kablolar kullanılarak kalıcı montaj yapılır ise, giriş fırçası değiştirilmelidir (K, KV, RVF ve KVK 125/160 tiplerine uygulanır). RS fanları, IP44'ün korunması için, bağlantı kutusu/motor plakası yukarıya gelecek şekilde takılmalıdır (**Şek.1**). Harici uçları (TK) olan termal kontaklı fanlar, daima harici motor korumasına bağlanmalıdır. Fanı, hava akışı yönünde (ünite üzerindeki oka bakınız) monte ediniz. Fan, kanal sistemi veya binanın karkası tarafından herhangi titreşim iletilememesini temin edecek şekilde monte edilmelidir. (Hızlı bağlantı kelepçeleri ve difüzörler gibi uygun aksesuarlar mevcuttur). Fanın montajının sıkı ve dengeli biçimde yapıldığından emin olunuz (**Şek. 3**). Aksi belirtildiğinde, fan, herhangi bir yönde monte edilebilir. Fanlar, servis ve bakım işleminin kolaylıkla ve emniyetli bir biçimde yapılabilmesini temin edecek şekilde monte edilmelidir. Rahatsız edici gürültü, susturucular takılarak azaltılabilir (bir aksesuar olarak mevcuttur). Frekans regülasyonu kullanıldığında, bir tam kutuplu sinüsfiltresi motor ile frekans denetleyici arasına monte edilmelidir (tam kutupluğun sürümü: fazdan faza, fazdan toprağa). Fanların belirtilmiş olan sıcaklık aralığı içerisinde sürekli çalışacağı varsayılmaktadır. Manuel termal kontakları olan fanlar (güç devre dışı bırakılarak sıfırlanır,, motor koruması SP1), otomatik aç/kapat fonksiyonlu çevre birimi teçhizat bağlandığında, göz önünde bulundurulmalıdır. KT fanları için önerilen kablolama (**Şek. 2**).

Çalıştırma

İlk çalışma öncesinde, aşağıdakileri kontrol edin:

- Elektrik bağlantısı uygun biçimde tamamlanmıştır.
 - Koruyucu iletken takılmıştır.
 - Motor koruma takıldı.
 - Emniyet cihazları yerinde (koruyucu izgara)
 - Geri kalan montaj malzemeleri ve yabancı malzemeler muhafaza içerisinde çıkartılmıştır.
- Çalışmaya alacağınız zaman, aşağıdakileri kontrol edin:
- İsim plakası üzerinde, özelliklerine karşılık gelen bağlantı bilgileri: Maksimum voltaj %+6, -%10, IEC 38'e göre. Anma akımı, anma geriliminde %5'i aşmamalıdır. DİKKAT! Motor akımı, gerilim düşürülerek hız regule edildiğinde, daha düşük bir gerilimdeki anma akımını aşamaz. Bu durumda,

motor sargıları termal kontak tarafından korunur.
Minimum statik basınç düşümü gözlenmelidir.
- Motor korumasının çalışır durumda olduğu. Dönüş yönü, dönüş yönü okuna (3 faz) karşılık gelmelidir.
- Motorun sarsıntısız çalışması, (herhangi anormal gürültü yok).
- Termal motor korumasına bağlantıda başarısız olunması, tüm garantileri sıfırlar ve geçersiz kılar.
- TFE 220 devamlı çalışma için adapte edilmiştir.
Model ve boyuta bağlı olarak 70 dB(A)'ı aşan ses seviyeleri oluşabilir (detaylı bilgi için,
www.systemair.com sitesindeki on-line kataloga bakın)

Bakım, Servis ve Onarım

Bakım, servis veya onarım öncesi şunlardan emin olunuz:

- Güç beslemesi kesilmiştir (tam-kutuplu devre kesici).
- Fan pervanesi hareketsiz duruma gelmiştir
- Kişisel emniyet mevzuatını gözetiniz!
- Besleme kablosunun zarar görmesi durumunda, tehlikeli bir durumu önlemek üzere, servis yetkilisi veya benzeri nitelikli kişiler, ya da üretici tarafından değiştirilmelidir.

Fan gerektiğinde, yılda en az 1 kez, dengesizlikten ve rulmanlarda olabilecek gereksiz hasardan kaçınmak üzere temizlenmelidir. Bir filtre kullanılması, fanın her temizlenme arasındaki zaman aralığını uzatır.

(Bazen bir filtre koruyucusunun takılması önerilir).

Rulman yatakları bakım gerektirmez ve eğer ancak zarar görmüşlerse değiştirilmelidir. Fani temizlerken, yüksek-basınçlı bir temizleyici (buhar püskürmesi) kullanmayınız. Fanın kanatlarının denge ağırlıklarının sökülmemişinden veya fan pervanesinin dengesinin bozulmadığından emin olunuz. Anormal çalışma gürültülerini dinleyin.

Termal atlamaların sıfırlanması

Manuel termal atlamalar (SP1), yaklaşık olarak 10-20 dakika kadar şebekenin devre dışı edilmesi ile sıfırlanır.

Termal atmalar (TK) için harici uçları olan fanlar, harici motor korumasından sıfırlanır. Bu korumanın otomatik sıfırlaması olmayabilir.

Fanın bloke olmadığından veya motor korumasının atmadığından emin olunuz. Eğer motor korumasının kontrol edilmesi ve/veya sıfırlanması sonrasında motor çalışmaz ise, tedarikçi ile temasla geçiniz.

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настоящим подтверждает, что следующие продукты:

Канальные вентиляторы с круговым соединением:	K 100–315L, KD200 L1–KD500 M3, KVO100–KVO400
Изолированные канальные вентиляторы с круговым соединением:	KVKE125–KVKE315L, KVK125–KVK 500, KVK125DUO–KVK500DUO
Настенные вентиляторы с круговым соединением:	KV 100M–315L, RVF100M
Канальные вентиляторы с прямоугольным соединением:	KE/KT40–20–4 — KE/KT100–50–8, RS/RSI30–15L — RS/RSI100–50L3, KDRE/KDRD45 — KDRE/KDRD70
Крышные вентиляторы с квадратным или круглым соединением:	TFSR/TFSK125M — TFSR/TFSK315L, TFE220S/M, TOE/TOV355–4 — TOE/TOV560–4
Кухонные вентиляторы:	Essvent S/L, KFB140S/L
Центробежные вентиляторы:	CE140S–125, CE140L–125, CE140M–160, CE140L–160, CT225–4, CT250–4, CT280–4, CT315–4, CT355–4, CKS560–3
Высокотемпературные вентиляторы	KBT 160DV, 200DV, KBT 160E4–250E4, KBT 250D4 IE2–280D4 IE2

(Декларация применяется к изделию, находящемуся только в том состоянии, в котором оно было доставлено и установлено на объекте в соответствии с инструкциями по установке, входящими в комплект. Страховка не распространяется на комплектующие, которые добавляются, или на действия, впоследствии производимые с изделием.)

Соблюдайте все необходимые требования приведенных директив:

директива по машиностроению 2006/42/EC	директива по низковольтному оборудованию 2014/35/EU	директива по электромагнитной совместимости 2014/30/EU
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К соответствующим частям применяются приведенные далее стандарты:

- EN ISO 12100:2010** Безопасность машинного оборудования — Общие принципы конструирования — Оценка риска и снижение степени риска.
- EN 13857** Безопасность машинного оборудования — Безопасные расстояния для исключения опасных зон, в которые могут попасть верхние или нижние конечности.
- EN 60 335–1** Бытовые и аналогичные электрические приборы — Безопасность — Часть 1: Общие требования.
- EN 60 335-2-80** Бытовые и аналогичные электрические приборы — Безопасность — Часть 2–80:
Специальные требования для вентиляторов.
- EN 62233** Методы измерения электромагнитных полей бытовых приборов и аналогичных устройств в отношении воздействия на человека.
- EN 50 106:2007** Безопасность бытовых и аналогичных электрических приборов — Особые правила проведения контрольных испытаний, имеющих отношение к приборам в рамках EN 60 335–1 и EN 60967.
- EN 60529** Степени защиты, обеспечиваемые защитными корпусами (Код IP).
- EN 60 204–1** Безопасность машинного оборудования — Электрооборудование машин — Часть 1: Общие требования
- EN 61000–6–2** Электромагнитная совместимость (EMC) — Часть 6–2: Общие стандарты — Помехоустойчивость для промышленных зон.
- EN 61000–6–3** Электромагнитная совместимость (EMC) — Часть 6–3: Общие стандарты — Нормы выбросов для жилых, торговых помещений и небольших промышленных зон.

Skinnskattberg 15-03-2016



Mats Сандор (Mats Sándor),
Технический директор

Информация по технике безопасности

Это оборудование не должно быть введено в эксплуатацию до прочтения инструкций по монтажу и технике безопасности.

Все вентиляторы предназначены для транспортирования воздуха в системах кондиционирования воздуха. При установке вентилятора в неотапливаемых помещениях кожух вентилятора должен быть изолирован для избегания образования конденсата. Они предназначены для использования только встроенными в оборудование или канальные системы и после установки защитной решетки. (EN ISO 13857). Вентиляторы с соединениями каналов должны быть подключены к каналам с обеих сторон (вход/выход). Если есть риск поступления воды в двигатель по каналам, требуется внешняя защита двигателя. После установки движущиеся части должны быть недоступны. Вентиляторы не должны использоваться в опасных условиях или соединяться с дымоходами. Вентиляторы не должны устанавливаться на открытом воздухе (за исключением крыщных вентиляторов и вентиляторов, предназначенных для этой цели, с соответствующим IP-классом). Для вентиляторов, установленных без изоляции в неотапливаемых зонах, существует риск образования конденсата. Защитные устройства (т. е. защита двигателя, защитная решетка) не могут быть удалены, короткозамкнуты или отсоединенны.

Этот прибор может использоваться детьми в возрасте от 8 лет и старше и лицами с ограниченными физическими, сенсорными или умственными способностями, а также неопытными и неподготовленными, если они предварительно прошли инструктаж в отношении безопасного использования прибора и понимают потенциальные опасности. Дети не должны играть с прибором. Дети не должны выполнять очистку и обслуживание без присмотра.

Должны быть приняты меры по предотвращению обратного потока выхлопных газов из дымоходов или других приборов, установленных в одной комнате и работающих на газу или других видах топлива.

Прибор должен быть подключен к главному размыкателю сети в стационарной установке

ВНИМАНИЕ! Перед проведением текущего ремонта или обслуживания выключите питание (многополюсной выключатель) и убедитесь, что рабочее колесо окончательно остановилось.

ВНИМАНИЕ! Вентиляторы могут иметь острые края и углы, которые могут нанести травму.

ВНИМАНИЕ! Будьте осторожны при открытии смотровых люков вентилятора (поворотно-откидных); вентилятор и двигатель, собранные на люке, относительно тяжелые.

ВНИМАНИЕ! Электрические сброс.

Транспортировка и хранение

Все вентиляторы упакованы на заводе таким образом, чтобы выдерживать нормальную транспортировку. При обращении с товаром используйте подходящее подъемное оборудование для избегания повреждения вентиляторов и персонала. Не поднимайте вентиляторы за соединительный кабель, соединительную коробку, рабочее колесо или входной конус. Избегайте ударов и ударных нагрузок. Храните вентиляторы в сухом месте, защищенном от атмосферных воздействий и грязи, до их окончательной установки.

Установка

См. выше информацию по безопасности.

Установка, электрическое подключение и ввод в эксплуатацию должны осуществляться уполномоченным персоналом в соответствии с требованиями и нормами. Электрические соединения производятся в соответствии с электрической схемой в клеммной коробке, маркировкой на клеммных блоках или на кабеле. Все 3-фазные вентиляторы поставляются с завода с 3-фазным подключением к сети при напряжении 400 В переменного тока. Закройте пробками-заглушками все неиспользуемые кабельные вводы. Вентилятор типа K должен быть установлен с соединительной коробкой на верхней части устройства под углом ±90 градусов. Если постоянная установка осуществляется с помощью кабелей с диаметром 12–14 мм, вводный изолятор должен быть заменен (относится к типу K, KV, RVF и KVK 125/160).

Чтобы сохранить IP44 вентиляторы серии RS не должны быть смонтированы соединительной коробкой/моторной пластиной вверх (**рис. 1**). Вентиляторы с термоконтактами, имеющими внешние соединительные провода (TK), всегда следует подключать к внешней защите двигателя. Сборку вентилятора следует осуществлять в направлении воздушного потока (см. стрелку на блоке). Вентилятор должен быть установлен таким образом, чтобы через систему воздуховодов или корпус здания не передавалась никакая вибрация. (Доступны соответствующие комплектующие, такие как крепкие зажимы и диффузоры). Убедитесь, что собранный вентиляторочно закреплен и стабилен (**рис. 3**). Вентилятор может быть установлен в любом направлении, если не указано иное. Вентиляторы должны быть установлены таким образом, чтобы обеспечить простое и безопасное осуществление обслуживания и ремонта. Посторонний шум можно снизить, установив глушители (доступны в качестве комплектующих).

При использовании частотного регулирования всеполюсной синусный фильтр должен быть установлен между двигателем и частотным регулятором (вариант всех полюсов: межфазный, замыкание фазы на землю). Вентиляторы предназначены для непрерывной работы в определенном диапазоне температур. При подключении окружающего оборудования с автоматическим функцией включения/выключения следует учитывать наличие вентиляторов с ручными термоконтактами (брос путем отключения питания, защита двигателя SP1). Рекомендуемая монтажная электрическая схема для вентиляторов КТ (рис. 2).

Эксплуатация

Перед вводом в эксплуатацию необходимо проверить следующее:

- электрическое подключение завершено корректно;
- был подключен защитный провод;
- установлена защита на двигатель;
- защитные устройства находятся на своем месте (защитная решетка);
- из корпуса были удалены материалы, оставшиеся после установки, и ненужные материалы.

При вводе в эксплуатацию проверьте следующее:

- данные о соединении соответствуют техническим характеристикам, указанным на заводской табличке: максимальное напряжение +6 %, -10 % в соответствии с IEC 38.
 - Номинальный ток не должен быть превышен более чем на 5 % при номинальном напряжении. **ВНИМАНИЕ!** При регулировании скорости за счет снижения напряжения ток двигателя может превышать номинальный ток при более низком напряжении. В этом случае обмотки двигателя защищены термоконтактом. Должно соблюдаться минимальное статическое падение давления.
 - Защита двигателя функционирует. Направление вращения должно соответствовать стрелке, указывающей направление вращения (3 фазы).
 - Плавность работы двигателя (отсутствуют необычные шумы).
 - Неправильное подсоединение термозащиты двигателя приводит к аннулированию гарантии.
 - TFE 220 выполнен с возможностью непрерывной работы.
- Громкость звука, превышающая 70 дБ (A), может возникнуть в зависимости от модели и размера (для подробной информации см. онлайн каталог на сайте www.systemair.com)

Техническое обслуживание, обслуживание и ремонт

Перед проведением технического обслуживания, обслуживания и ремонта убедитесь, что:

- питание отключено (многополюсной выключатель);
- рабочее колесо полностью остановилось.
- Необходимо соблюдать правила техники безопасности персонала!
- Если кабель питания поврежден, для предотвращения опасности его замену должны производить изготовитель, представитель изготовителя или иные квалифицированные лица. Вентилятор должен очищаться при необходимости или хотя бы 1 раз в год, чтобы избежать поломки и необоснованного повреждения подшипников. Фильтр продлевает временной интервал между чистками вентилятора. (Иногда рекомендуется установить фильтрующее предохранительное устройство). Подшипники вентиляторов не требуют технического обслуживания и подлежат замене только в случае повреждения. Не используйте очистительный аппарат под высоким давлением (паром) при чистке вентилятора. Убедитесь, что балансировочные грузики рабочего колеса вентилятора не двигаются, а рабочее колесо не искривлено. Обратите внимание на необычный рабочий шум.

Сброс тепловых выключателей

Вручную тепловые выключатели (SP1) сбрасываются при отключении от сети в течение ок. 10–20 мин.

Вентиляторы с внешними соединительными проводами для тепловых выключателей (TK) сбрасываются от внешней защиты двигателя. Эта защита не имеет автоматического сброса. Убедитесь, что вентилятор не был заблокирован и что сработала защита двигателя. Свяжитесь с поставщиком, если двигатель не запускается после настройки и/или сброса защиты двигателя.

Proizvođač

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ovim potvrđuje da su sledeći proizvodi:

Kanalni ventilatori s okruglim priključkom:	K 100 – 315L, KD200 L1 – KD500 M3, KVO100 – KVO400
Izolirani kanalni ventilatori s okruglim priključkom:	KVKE125 – KVKE315L, KVK125 – KVK 500, KVK125DUO – KVK500DUO
Zidni ventilatori s okruglim priključkom:	KV 100M – 315L, RVF100M
Kanalni ventilatori s pravougaonim priključkom:	KE/KT40-20-4 – KE/KT100-50-8, RS/RSI30-15L – RS/RSI100-50L3, KDRE/KDRD45 – KDRE/KDRD70
Krovni ventilatori s okruglim ili pravougaonim priključkom:	TFSR/TFSK125M – TFSR/TFSK315L, TFE220S/M, TOE/TOV355-4 – TOE/TOV560-4
Kuhinjski ventilatori:	Essvent S/L, KFB140S/L
Radijalni ventilatori:	CE140S-125, CE140L-125, CE140M-160, CE140L-160, CT225-4, CT250-4, CT280-4, CT315-4, CT355-4, CKS560-3
Ventilatori za rad na visokim temperaturama:	KBT 160DV, 200DV, KBT 160E4-250E4, KBT 250D4 IE2- 280D4 IE2

(Izjava se odnosi samo na proizvode u stanju u kom su isporučeni i instalirani u skladu s priloženim uputstvom za instalaciju. Osiguranje ne pokriva dodate komponente ili naknadno izvršene radnje na proizvodu)

usklađeni sa svim važećim zahtevima navedenim u sledećim direktivama

Direktiva o mašinama 2006/42/EZ	Direktiva o niskonaponskim uređajima 2014/35/EU	Direktiva o elektromagnetskoj otpornosti 2014/30/EU

Sledeći usklađeni standardi važe u primenjivim delovima:

- | | |
|--------------------------|--|
| EN ISO 12100:2010 | Bezbednost mašina - Opšti principi za projektovanje – Ocena rizika i smanjenje rizika. |
| EN 13857 | Bezbednost mašina - Bezbednosna rastojanja za sprečavanje dosezanja zona opasnosti gornjim i donjim ekstremitetima. |
| EN 60 335-1 | Aparati za domaćinstvo i slični električni aparati — Bezbednost — Deo 1: Opšti zahtevi. |
| EN 60 335-2-80 | Aparati za domaćinstvo i slični električni aparati — Bezbednost — Deo 2-80: Posebni zahtevi za ventilatore. |
| EN 62233 | Metode za merenje elektromagnetskih polja koje stvaraju aparati za domaćinstvo i slični aparati u pogledu izlaganja ljudi njihovom uticaju. |
| EN 50 106:2007 | Sigurnost kućanskih uređaja i drugih sličnih električnih uređaja - Posebna pravila za rutinska ispitivanja uređaja obuhvaćenih standardima EN 60 335-1 i EN 60967. |
| EN 60529 | Stepeni zaštite električne opreme ostvareni pomoću zaštitnih kućišta (IP kôd). |
| EN 60 204-1 | Bezbednost mašina - Električna oprema mašina - Deo 1: Opšti zahtevi |
| EN 61000-6-2 | Elektromagnetska kompatibilnost (EMC) - Deo 6-2: Generički standardi - Imunost u industrijskim okruženjima. |
| EN 61000-6-3 | Elektromagnetska kompatibilnost (EMC) - Deo 6-3: Generički standardi - Standard za emisiju u stambenim i komercijalnim okruženjima i okruženjima lake industrije. |

Skinnskattberg 15-03-2016



Mats Sándor
 Tehnički direktor

Bezbednosne informacije

Pre puštanja ove mašine u pogon morate pročitati uputstvo za montažu i bezbednosne informacije. Svi ventilatori su namenjeni transportu vazduha u sistemima za upravljanje vazduhom. U slučaju instalacije u negrejanim prostorijama kućište ventilatora mora da bude izolovano da bi se izbegla kondenzacija. Namjenjeni su upotrebi nakon ugradnje u mašinske sklopove ili kanalne sisteme i nakon montaže zaštitne rešetke. (EN ISO 13857). Ventilatori s kanalnim priključcima moraju se priključiti na kanale s obe strane (ulaz i izlaz). U slučaju da postoji rizik od prodiranja vode u motor kroz kanale, potrebna je spoljna zaštita motora. Posle instalacije pokretni delovi ne smeju da budu pristupačni. Ventilatori nisu namenjeni za upotrebu u opasnim okruženjima ni za priključivanje na odvodne kanale. Ventilatori ne smeju da budu instalirani na otvorenom (osim krovnih ventilatora i ventilatora odgovarajuće IP klase zaštite). U slučaju instalacije ventilatora bez izolacije u negrejanim prostorijama, postoji opasnost od kondenzacije. Zabranjeno je uklanjanje, kratko spajanje ili odvajanje bezbednosne opreme (odnosno zaštite motora, bezbednosne rešetke).

Ovaj uređaj mogu koristiti deca starija od 8 godina i osobe sa smanjenim fizičkim, senzornim i mentalnim sposobnostima ili nedostatkom iskustva i znanja ako su pod nadzorom ili su dobili uputstva u vezi s bezbednim korišćenjem uređaja i shvataju pripadajuće opasnosti. Deca ne smeju da se igraju uređajem. Deca bez nadzora ne smeju da obavljaju čišćenje ni korisničko održavanje.

Potrebno je preduzeti mere predostrožnosti da bi se sprečio povraćaj izduvnih gasova iz drugih uređaja na gas ili druga goriva instaliranih u istoj prostoriji. Uređaj mora da bude priključen na osigurač za mrežno napajanje u fiksnoj instalaciji
OPREZ! Pre servisiranja ili održavanja isključite napajanje (svepolni osigurač) i proverite da li je pokretač zaustavljen. **OPREZ!** Ventilatori mogu da imaju oštре ivice i uglove koji mogu da izazovu povrede. **OPREZ!** Pazite prilikom otvaranja servisnih vratašca ventilatora (zaokretna), jer su ventilator i motor koji su montirani na njima relativno teški.
OPREZ! Električno resetovanje.

Transport i čuvanje

Svi ventilatori su fabrički pakovani tako da izdrže normalno rukovanje prilikom transporta. Prilikom rukovanja robom koristite odgovarajuću opremu za podizanje da biste izbegli oštećenja ventilatora i povrede osoblja. Nemojte podizati ventilatore držeći ih za spojni kabl, priključnu kutiju, pokretač ili ulazni konus. Izbegavajte udarce i velika opterećenja. Ventilatore čuvajte na suvom mestu, zaštićene od vremenskih uticaja i nečistoća do trenutka instalacije.

Instalacija

Pročitajte gornje bezbednosne informacije. Instalaciju, električno priključivanje i puštanje u pogon sme da provodi samo ovlašćeno osoblje u skladu sa zahtevima i potrebama. Električno priključivanje mora da se provede u skladu sa dijagramom ožičenja u priključnoj kutiji, oznakama na priključnim blokovima ili na kablu. Svi 3-fazni ventilatori se fabrički isporučuju s priključkom od 400 V 3~. Zatvorite i ispraznite priključke kablova poklopcom. Ventilator serije K mora se instalirati tako da priključna kutija bude na vrhu jedinice pod uglom od ± 90 stepeni. U slučaju izvođenja fiksne instalacije s kablovima prečnika 12-14 mm, mora se vratiti ulazni ležaj (odnosi se na tipove K, KV, RVF i KVK 125/160). Da bi se zadržala zaštita IP44, ventilatori serije RS ne smeju se montirati s priključnom kutijom/pločom motora okrenutom prema gore (**Sl. 1**). Ventilatori s topotnim kontaktima sa spoljnim vodovima (TK) uvek se moraju priključiti na spoljnu zaštitu motora. Montirajte ventilator u pravcu protoka vazduha (pogledajte strelicu na uređaju). Ventilator se mora instalirati tako da se preko sistema kanala ili konstrukcije zgrade ne prenose vibracije (dostupan je odgovarajući pribor, kao što su brze uvodnice i difuzori). Proverite da li je sklop ventilatora čvrsto fiksiran i stabilan (**Sl. 3**). Ventilator se može montirati u bilo kom smeru ako nije drugačije navedeno. Ventilatori se moraju instalirati tako da se obezbedi jednostavno i bezbedno servisiranje i održavanje. Buka se može smanjiti instaliranjem prigušivača (dostupni kao dodatni pribor). U slučaju korišćenja regulacije frekvencije između motora i regulatora frekvencije mora se montirati svepolni sinusni filter (verzija za sve polove: od faze do faze, od faze prema uzemljenju). Ventilatori su namenjeni stalnom radu u navedenom rasponu temperature.

U slučaju priključivanja dodatne opreme s automatskom funkcijom uključivanja/isključivanja, treba razmotriti instalaciju ventilatora s ručnim topotnim kontaktima (koji se resetuju isključivanjem napajanja, sa zaštitom motora SP1). Preporučeno ožičenje za ventilatore serije KT (**Sl. 2**).

Rad

Pre početka rada proverite sledeće:

- pravilno izveden električni priključak;
- spojen zaštitni vodič;
- instalirana zaštita motora;
- Montirani zaštitni uređaji (zaštitna rešetka);
- višak materijala od instalacije i strana tela uklonjeni su iz kućišta;

Prilikom puštanja uređaja u rad proverite sledeće:

- podaci za priključivanje odgovaraju specifikacijama na tipskoj pločici: maksimalni napon +6%, -10%, u skladu s IEC 38. Nominalna jačina struje ne sme da se premaši za više od 5% pri nominalnom naponu.

OPREZ! U slučaju regulacije brzine smanjenjem

naponu jačina struje u motoru ne sme da premaši nominalnu jačinu pri nižem naponu. U tom slučaju kalemi motora su zaštićeni topotnim kontaktom. Mora se pratiti minimalni statički pad pritiska.

- zaštita motora mora da bude funkcionalna; Smer okretanja mora da odgovara strelici (3-fazni uređaji).
 - nesmetan rad motora (bez neuobičajene buke);
 - u slučaju da topotna zaštitna motora nije spojena, poništavaju se sve garancije.
- TFE 220 je prilagođen za kontinualni rad.
Nivo buke može da dostigne 70 dB(A), što zavisi od modela i veličine (detaljne informacije potražite u katalogu na internet adresi www.systemair.com)

Održavanje, servisiranje i popravci

Pre održavanja, servisiranja ili popravaka obezbedite sledeće:

- neprekidno napajanje (svepolni osigurač).
- pokretač ventilatora mora da bude potpuno zaustavljen
- poštujte bezbednosne propise u vezi sa zaštitom osoblja!
- Da bi se izbegle opasnosti, u slučaju oštećenja kabla za napajanje zamenu mora izvršiti proizvođač, serviser ili slično kvalifikovano lice.

Ventilator se mora čistiti prema potrebi, a najmanje jednom godišnje da bi se izbegli neravnoteža i nepotrebljeno oštećenje ležajeva. Instalacija filtera produžiće interval između čišćenja ventilatora (ponekad se preporučuje i instalacija štitnika za filter).

Ležajevi ventilatora ne nalažu održavanje i treba ih promeniti samo u slučaju oštećenja. Za čišćenje ventilatora nemojte da koristite uređaj za čišćenje pod visokim pritiskom (na paru). Tegovi za balansiranje pokretača ventilatora ne smeju da se pomeraju, a pokretač ne sme da bude iskrivljen. Osluškujte neuobičajenu buku u radu.

Resetovanje topotnih osigurača

Ručni topotni osigurači (SP1) resetuju se isključivanjem glavnog napajanja na otprilike 10-20 min.

Ventilatori sa spoljnim vodičima za topotne osigurače (TK) resetuju se sa spoljne zaštite motora. Ovaj uređaj možda nema automatsko resetovanje zaštite. Uverite se da ventilator nije blokiran i da nije aktivirana zaštita motora. Ako se motor ne pokrene posle kontrole i resetovanja zaštite motora, обратите se dobavljaču.



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Installation, Operation and Maintenance Instructions

EN

**DKEX Centrifugal Explosion proof fan
KTEX Inline ducted Explosion proof fan**



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1 Introduction

1.1 Product description

The DKEX is a explosion proof fan with an casing made from galvanized steel and intake nozzle from copper.

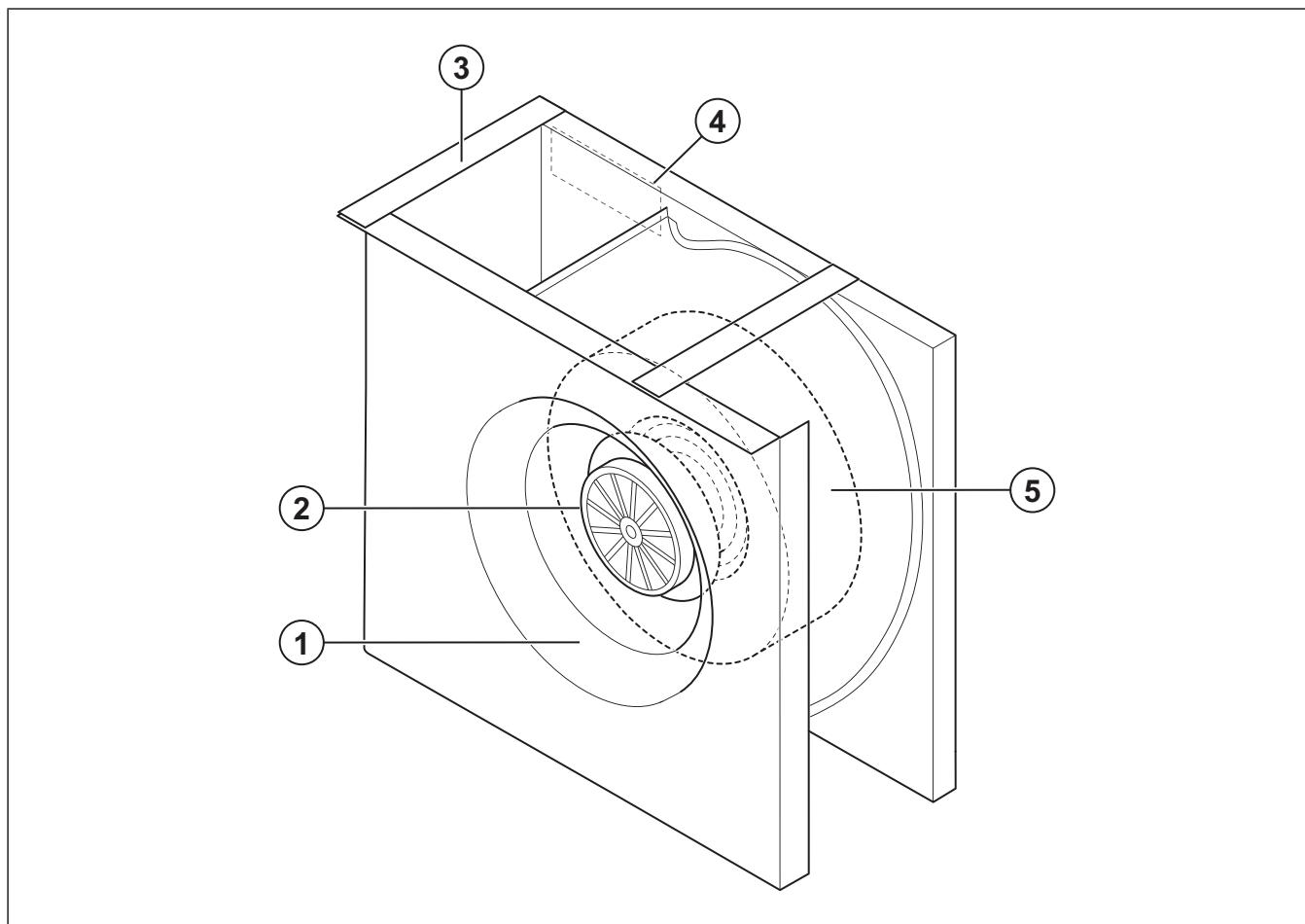
The KTEX is a explosion proof fan with an casing made from galvanized steel and brass inlet cone.

The product is not supplied with a safety switch, motor protection, external speed control or FK fast clamps, these parts are available and recommended as accessories.

1.2 Intended use

DKEX fans, KTEX fans are used for transport of air or explosive atmospheres with a maximum temperature of 60 °C and 95% air humidity.

1.4 Product overview DKEX



- | | |
|--------------------------------|---------------------------------|
| 1. Duct connection inlet side | 4. Name plate |
| 2. Motor | 5. Fan impeller (inside casing) |
| 3. Duct connection outlet side | |

The product is intended for installation in indoor environments. DKEX fan, KTEX fan are applicable for ambient temperatures of between -20 °C and +40 °C.

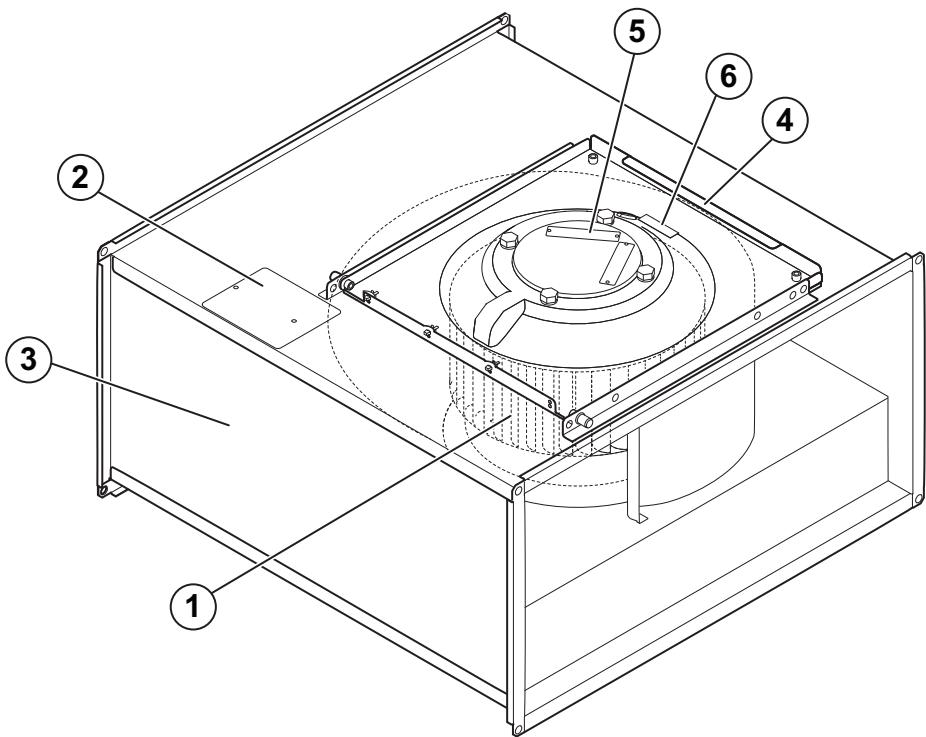
The product is applicable for transportation of air that contains explosive or flammable media. The product is applicable for locations where there is a risk of explosion.

1.3 Document description

This document contains instructions for installation, operation and maintenance of the product. The procedures must be done by approved personnel only.

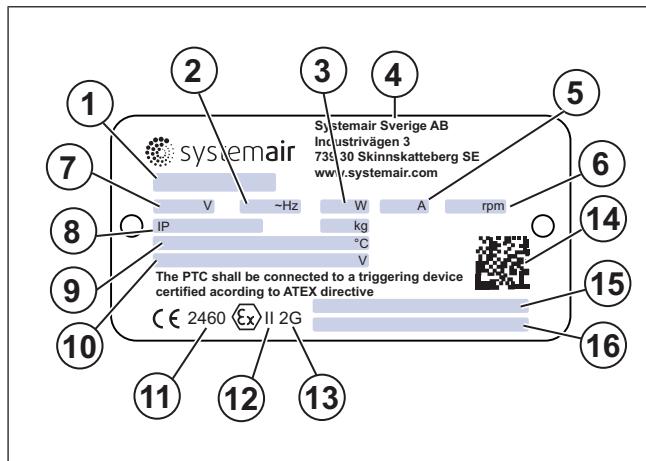
Speak to Systemair for more information on how to install the product in different installation locations.

1.5 Product overview KTEX



- | | |
|-------------------|-----------------------------|
| 1. Fan impeller | 4. Motor hatch |
| 2. Connection box | 5. Name plate |
| 3. Casing | 6. Rotation direction arrow |

1.6 Name plate



1. Type designation: Product name, dimension and motor type. Refer to [1.6.2 Type designation](#).
2. Frequency, Hz
3. Input power, W
4. Country of production
5. Current, A

1.6.1 Classification and Certification

Product name	Certification	Classification
DKEX 225-355		
KTEX 50-30-70-40	Presafe 17 ATEX 9970 X	Ex eb IIB + H ₂ T3 Gb

Ex eb h IIB + H₂ T3 Gb

- A. Explosion-protected material
- B. Type of protection, e = increased protection against sparks
- C. Apparatus group IIB (also applies to IIA)+H₂ also applies to hydrogen.
- D. Temperature class T3, maximum surface temperature for fan housing and motor is 200 °C, can be used for gas mixtures with ignition temperature exceeding 200 °C.
- E. EPL, Equipment Protection Level.

1. Use a mobile device to scan the scannable code

6. Revolutions per minute
7. Voltage, V
8. IP class, enclosure class
9. Ambient temperature
10. Speed controllable
11. Identification number of Notified Body
12. Equipment group II is intended for use in areas with explosive gas, except mining gas.
13. Category 2, zone 1, G = potentially explosive gas mixture can be occasionally expected to occur during normal operation.
14. Scannable code ¹
15. Explosion proof classification. Refer to [1.6.1 Classification and Certification](#)
16. Certification number. Refer to [1.6.1 Classification and Certification](#)

Note:

The data on the name plate applies to "standard air" that is specified in the standard ISO5801.

1.6.2 Type designation

Product name	DKEX	KTEX
Dimension	225	50-25
	250	50-30
	280	60-30
	315	60-35
	355	70-40
Motor type	3-phase, 230 V	3-phase, 230 V
	3-phase, 380 V	3-phase, 380 V
	3-phase, 400 V	3-phase, 400 V
	3-phase, 415 V	3-phase, 415 V

1.7 Product liability

Systemair is not liable for damages that the product causes in these conditions:

- The product is incorrectly installed, operated or maintained.
- The product is used together with accessories that are not original accessories from Systemair.
- The product is used without motor protection.

2 Safety

2.1 Safety definitions

Warnings, cautions and notes are used to point out specially important parts of the manual.



Warning

If you do not obey these instructions, there is a risk of death or injury.



Caution

If you do not obey these instructions, there is a risk of damage to the product, other materials or the adjacent area.

Note:

Information that is necessary in a given situation.

2.2 Safety instructions



Warning

Read the warning instructions that follow before you do work on the product.

- Read this manual and make sure that you understand the instructions before you do work on the product.
- Obey local conditions and laws.
- The ventilation contractor and the operator are responsible for correct installation and intended use.
- Keep this manual at the location of the product.
- Do not install or operate the product if it is defective.
- Do not remove or disconnect safety devices.
- Make sure that you can read all warning signs and labels on the product when it is installed. Replace labels that have damage.
- Only permit approved personnel to work on the product and to be in the adjacent area during all work on the product.
- Make sure that you know how to stop the product quickly in an emergency.
- Use applicable safety devices and personal protective equipment during all work on the product.
- Before you do work on the product, stop the product and wait until the fan impeller stops. Make sure that there is no voltage on the motor terminals.
- If the maintenance is not correctly and regularly done, there is risk of injury and damage to the product.
- Only do the maintenance as given in this manual. Speak to Systemair technical support if other servicing is necessary.
- Sound levels exceeding 70 dB(A) may occur depending on model and size. Visit www.systemair.com for more detailed information about your product.
- The product is not to be used by persons, including children, with reduced physical, sensory or mental

capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

- Do not allow children to play with the product.

2.3 Personal protective equipment

Use personal protective equipment during all work on the product.

- Approved eye protection
- Approved protective helmet
- Approved hearing protection
- Approved protective gloves
- Approved protective shoes
- Approved work clothing

3 Transportation and storage



Warning

Make sure that the product does not become damaged or wet during transportation. A damaged or wet product can cause fire or electric shock.

- Before you move the product to the installation location, examine the packaging for damages.
- Make sure that the impeller do not touch parts of the fan casing.
- Do not move the product by the cables, terminal box, fan impeller, protection grille or inlet cone.
- If lifting equipment is used, make sure that the lifting equipment can hold the weight of the product. Refer to the name plate for information. Do not lift the product by the packaging.



Warning

Do not walk below a lifted product.

- Keep the correct side of the packaging up during transportation. Refer to the arrows on the packaging.
- Load and unload the product carefully.
- Keep the product in a dry and clean location during storage. Make sure that the ambient temperature during storage is between –10 and +30 °C. A stable ambient temperature prevents damage from condensation.
- Keep the product in storage for maximum 1 year.

4 Installation



Warning

It is not permitted to install components with unprotected aluminium or steel surface before or after the product or in the direct air stream. To prevent an aluminothermic reaction, a surface protection is necessary that meet the crosscut test parameter of 2 / EN ISO 2409.



Warning

Rust particles must not be present in the air stream

Note:

Duct installations must be carried out so that enclosure class IP 20 (mesh width less than 12 mm) is fulfilled on the inlet and outlet side. Parts that assure the IP classification must be correctly designed with regard to strength and material.

Note:

All fans can be installed in any angle.

4.1 To do before the installation of the product

- Make sure that you have the necessary installation accessories:
 - Refer to [15 Accessory overview](#) for an overview of the accessories.
 - To decrease vibrations transmitted from the product to the duct system, Systemair recommends to install vibration dampers, fast clamps or flexible connections.
 - If you install the product with free suction or free discharge, it is necessary to install a protection grille. Make sure that the protection fulfils minimum IP 20 according to the standard EN 60529.
- Consider the ambient temperature, humidity, dirt in the environment and the air's corrosive properties.
- Use installation material with fire resistance rating for the installation location.
- Examine the packaging for transportation damage and remove the packaging from the product carefully.
- Examine the product and all components for damage.
- Make sure that the motor effect and the fan performance agrees with the expectations at the installation location.
- Make sure that the information on the name plate and the motor name plate agrees with the operation conditions.
- Install the product in a location where there is space for commissioning, troubleshooting and maintenance.
- Make sure that the installation location is clean and dry, for full safety during electrical work.
- Make sure that the installation surface has sufficient capacity to hold the weight of the product.
- Refer to the airflow direction arrows on the name plate or on the product to install the product in the correct position.
- Make sure that all cable glands are tight against the cables to prevent leaks.

4.2 To install the product

Note:

All fans can be installed in any angle.

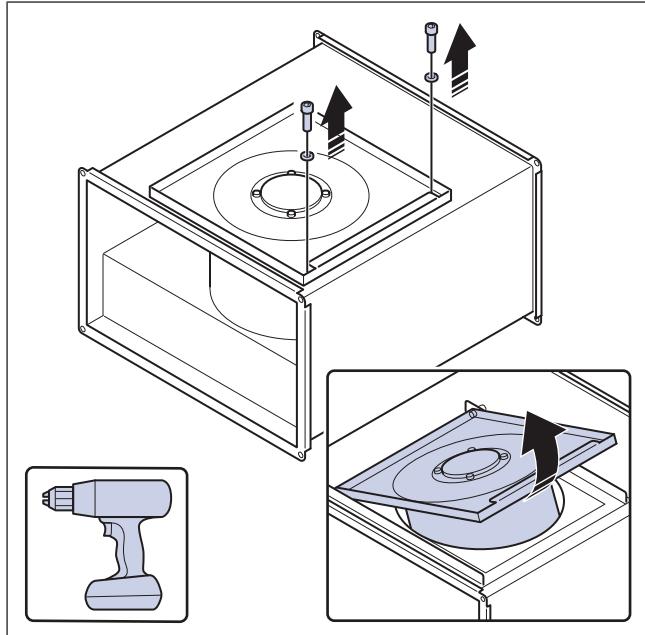
- 1 Install the product with applicable installation equipment, such as pendulum bars or wires from the ceiling, or applicable wall or floor mounting brackets.

Pendulum bars, wires and nuts or other installation equipment are not supplied by Systemair.

- If the product is installed on the floor, add insulation below the product to prevent unwanted noise and vibrations.
- If the product is installed near a wall, keep a distance of minimum 400 mm from the product to the wall to prevent unwanted vibrations.

4.2.1 To install the KTEX fan

- To open the service lid and access the motor or the connection box, remove the 2 screws on the top of the service lid.



4.3 To connect the ducts to the DKEX fan

Note:

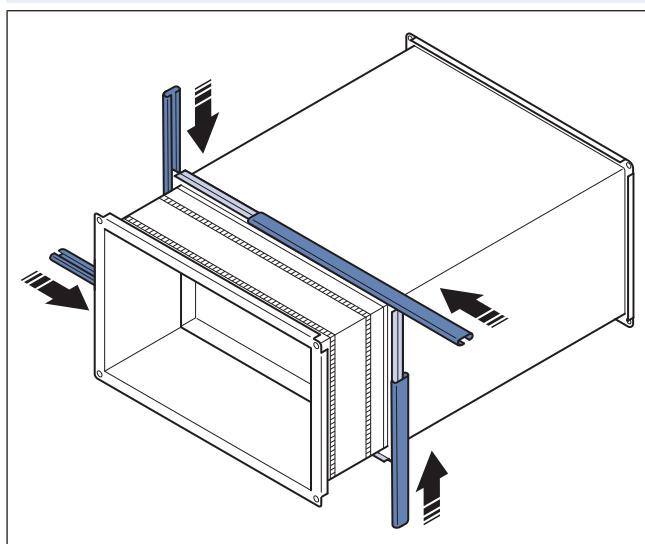
Systemair recommends to use flexible connections to attach the duct to the product. Flexible connections are available as accessories.

- Install the flexible connection USE on the outlet. Use guide rails to attach the flexible connections to the duct. Guide rails are not supplied by Systemair.

Flexible connection USE is available as an accessory.

Note:

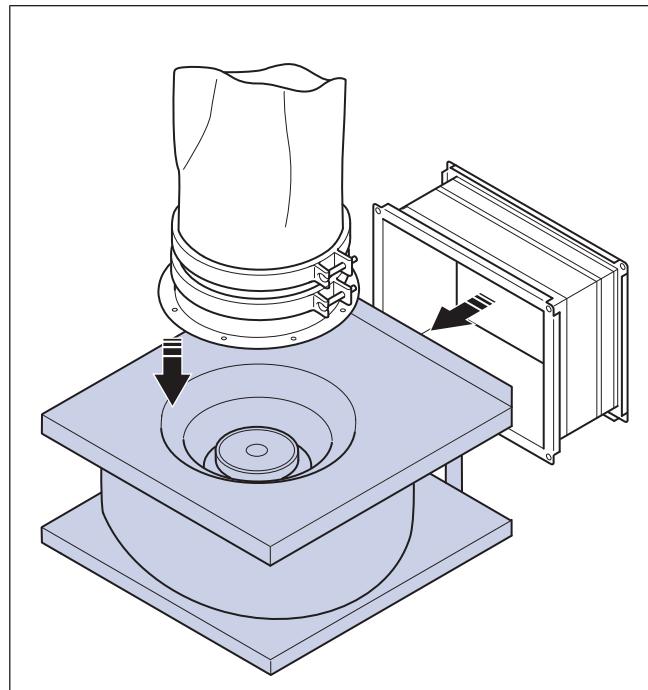
Installation example is only a guide for installation. The dimensioning of suspension devices must be carried by the installer and adapted to the prevailing conditions. Installation components mentioned in the text are accessories and not part of the ATEX certification.



- Install a circular duct on the inlet using flexible connection ISE. Fasten the flexible connection ISE to the fan casing using self-drilling screws.

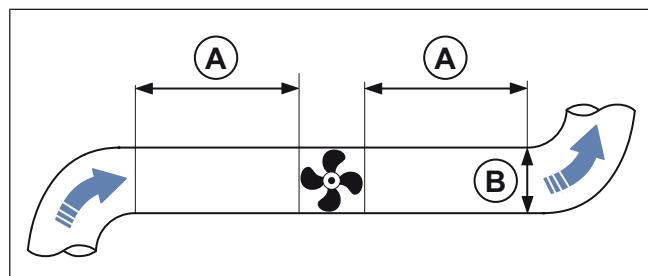
Self-drilling screws are not supplied by Systemair.

Flexible connection ISE is available as an accessory.



- If you install the product near a duct bend, do these steps to prevent vibrations, unwanted noise and decreased air pressure:

- Measure the distance (A) between the product and the duct bend.
- Make sure that the distance (A) is a minimum of $2.5 \times$ the diameter (B) of the duct system. For circular ducts, (B) is the nominal diameter. For rectangular ducts, (B) is the hydraulic diameter.



4.4 To connect the ducts to the KTEX fan

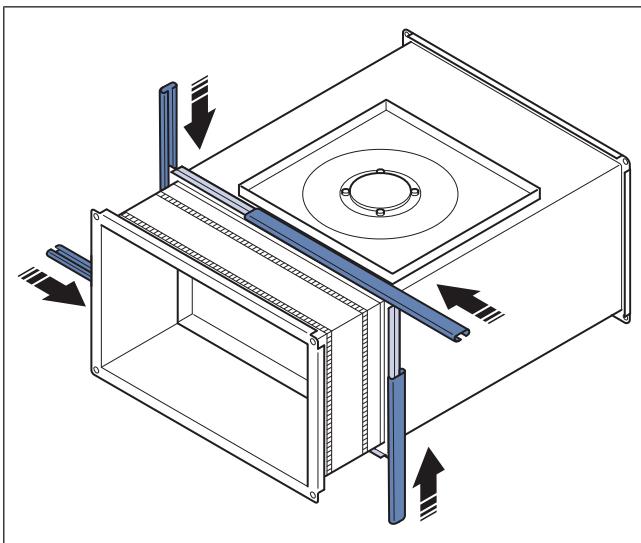
Note:

Systemair recommends to use flexible connections to attach the duct to the product. Flexible connections are available as accessories.

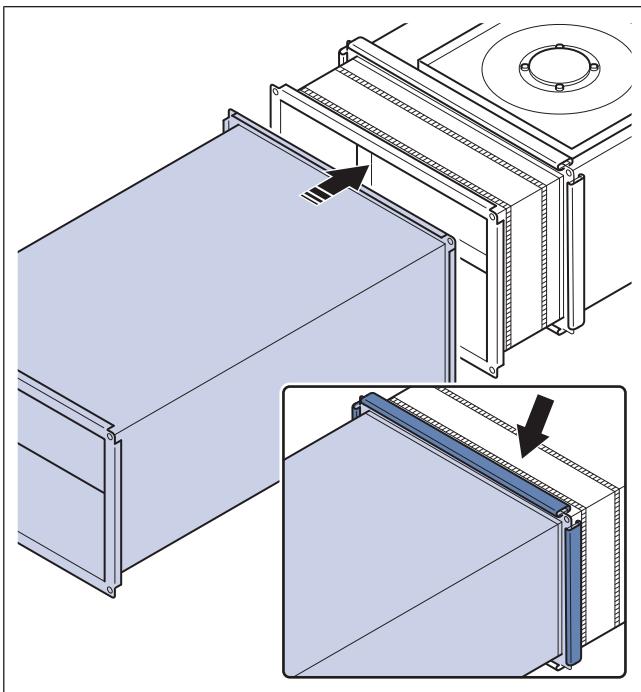
- 1** If applicable, put flexible connections on each side of the product and use guide rails to connect the product and the flexible connections. Guide rails are not supplied by Systemair.

Note:

Installation example is only a guide for installation. The dimensioning of suspension devices must be carried by the installer and adapted to the prevailing conditions. Installation components mentioned in the text are accessories and not part of the ATEX certification.

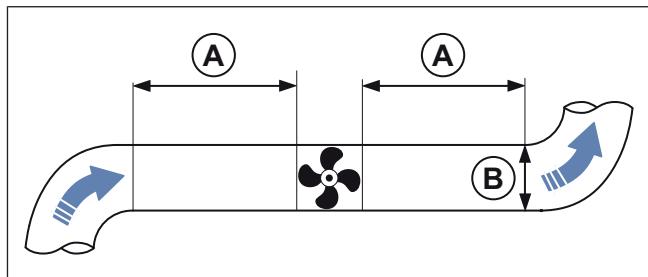


- 2** Put the ducts on each side of the product and the attached flexible connections. Use guide rails to attach the flexible connections to the ducts.



- 3** If you install the product near a duct bend, do these steps to prevent vibrations, unwanted noise and decreased air pressure:

- Measure the distance (A) between the product and the duct bend.
- Make sure that the distance (A) is a minimum of 2.5 x the diameter (B) of the duct system. For circular ducts, (B) is the nominal diameter. For rectangular ducts, (B) is the hydraulic diameter.



5 Electrical connection

5.1 To do before the electrical connection

- Make sure that the electrical connection agrees with the product specification on the motor name plate.
- Make sure that the environment for electrical connection is clean and dry.
- Make sure that the wiring diagram that is included with the supply of the product agrees with the terminals in the connection box.

5.2 To connect the product to the power supply

- Complete the electrical connection for the motor. Refer to [14 Wiring diagrams](#).
- Make sure that the cross section of the protective earthing is equal to or larger than the cross section of the phase conductor.
- Install a circuit breaker in the permanent electrical installation, with a contact opening of a minimum 3 mm at each pole.
- If a residual current device (RCD) is installed, make sure that it is an all-current sensitive RCD.



Warning

Do not use VFD (Variable Frequency Drive) for speed control.

Note:

ATEX approved motor protection is required. Systemair recommend U-EK230E motor protection.

6 Commissioning



Caution

- If strong vibrations occur during commissioning, immediately increase or decrease the fan speed until the vibrations are decreased. Continuous strong vibrations can cause damage to components.
- Do not increase the fan speed to a higher rpm value than the maximum value that is given on the name plate.

The commissioning report is found at www.systemair.com.

6.1 To do before the commissioning

- Make sure that the installation and electrical connection are correctly done.
- Make sure that PTC resistors and monitoring units are professionally connected and fully functional.
- Verify that connection data corresponds with the data on the rating plate: Max. voltage +6%, -10%, according to IEC 38. Rated current/power must not be exceeded at rated voltage.
- Do not have lower static back pressure than the minimum, refer to tables in [12 Technical data](#).
- The voltage of controllable fans is permitted to vary between 15% and 100% of nominal voltage with a transformer and between 25% and 100% with a thyristor.
- Make sure that the motor protection function.
- Make sure that the impeller do not hit parts of the fan housing (min. 3 mm).
- Visually examine the product and accessories for damage.
- Make sure that the safety devices are correctly installed.
- Make sure that there are no blockages in the air intake and the air outlet.
- Make sure that installation material and unwanted objects are removed from the product and the ducts.

6.2 To do the commissioning

- 1 Set the installed safety switch in the OFF position.
- 2 If it is possible to get access to the fan impeller, do the steps that follows:
 - a. If it is necessary, remove parts of the installation.
 - b. Turn the fan impeller by hand and make sure that it turn easily.
 - c. Record the result in the commissioning report.
- 3 Make sure to turn the product in a direction that agrees with the related arrow on the product.
 - a. Record the result in the commissioning report.
- 4 If you removed parts of the installation to get access to the fan impeller, install the removed parts again.
- 5 Set the installed safety switch in the ON position.
- 6 Start the product.
- 7 Set the minimum operation speed.

- 8** Increase the operation speed gradually to the maximum operation speed.
 - a. Examine the vibrations in the casing and the bearing areas at all speed levels.
 - b. Make sure that the vibrations agree with the specifications in ISO 14694.
 - c. Make sure that none of the speed levels cause unwanted noise in the product.
 - d. Record the result in the commissioning report.
- 9** Record the necessary data in the commissioning report.

7 Operation

7.1 To start the product

- 1** Make sure that the speed controller is set to position "0".
- 2** Adjust the fan speed with five fixed steps on the speed controller.



Warning

Do not use VFD (Variable Frequency Drive) for speed control.

7.2 To stop the product

- 1** Set the installed speed controller in the OFF position. Refer to the instruction manual for the installed speed controller.
- 2** Set the installed safety switch in the OFF position.

7.2.1 To stop the product in an emergency

- Set the installed safety switch in the OFF position.

8 Maintenance



Warning

Set the installed safety switch in the OFF position before you do the maintenance unless the instructions tell you differently. Make sure that the safety switch is not accidentally set in the ON position.

8.1 Maintenance schedule

The intervals are calculated from continuous operation of the product.

Maintenance task	Usual operation conditions		Unusual operation conditions. ¹		
	Each 6 months	Each year	Each 3 months	Each 6 months	Each year
Visually examine the product and its components for damage, corrosion and dirt.		X		X	
Examine the fan impeller for damage and imbalance.		X		X	
Clean the product and the ventilation system.	X		X		
Do a check of all fasteners and make sure that they are fully tightened.		X			X
Make sure that the product and its components are correctly operated.	X			X	
Measure the power consumption and compare the result with the information on the name plate.		X		X	
If vibration dampers are installed, make sure that they operate correctly and examine them for damage and corrosion.		X			X
Make sure that the electrical protective equipment and the mechanical protective equipment operates correctly.		X			X
Make sure that you can read the name plates of the product.		X		X	
Examine all cable connections for damage. Make sure that the cable glands are tight against the cables.		X			X
If flexible connections are installed, examine them for damage.	X			X	

1. The unusual operation conditions are classified as follows: If a stable ambient temperature is higher than 30 °C or lower than -10° C, if the temperature changes are large or if very contaminated air is transported.

8.2 To clean the product



Caution

- Do not clean the product with a high-pressure washer.
- Do not clean the product with steel brushes or sharp objects.
- Do not bend the fan impeller blades.
- Be careful not to move the balance weights on the fan impeller.

- Remove dirt from the fan and the duct.
- If access to the fan impeller is possible, clean the fan impeller with a moist cloth or soft brush.

8.3 Spare parts

Note:

Reparation or replacement of components is not permitted on DKEX, KTEX fans.

9 Troubleshooting

Note:

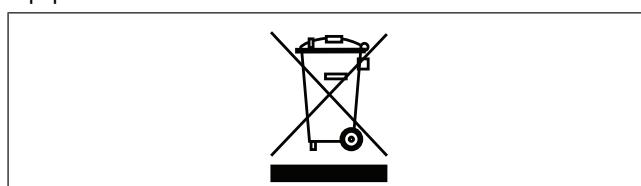
If you cannot find a solution to your problem in this section, speak to Systemair technical support.

Problem	Cause	Solution
The product does not operate smoothly.	The fan impeller is not correctly balanced.	Speak to Systemair technical support.
	There is dirt on the fan impeller.	Clean the fan impeller carefully. Refer to 8.2 To clean the product .
	The fan impeller has damages or deformations because the transported air contains aggressive media.	Speak to Systemair technical support.
	The fan impeller does not turn in the correct direction.	Make sure that the electrical connection is correctly done.
	The fan impeller has deformations because of too high temperatures.	<ul style="list-style-type: none">• Make sure that the temperature of the transported air is not higher than the value on the name plate.• Replace the product.
	There are unusually strong vibrations in the product or the duct system.	Make sure that the product is correctly installed. Do a check of the duct system.
The air output is not sufficient.	The product is operated in a resonant frequency range.	Increase or decrease the fan speed until the product operates smoothly. Refer to 6 Commissioning .
	The fan impeller does not turn in the correct direction.	Make sure that the electrical connection is correctly done.
	The electrical connection is not correctly done.	Make sure that the electrical connection agrees with the wiring diagrams.
	The air pressure is too low because of incorrect installation.	Do the necessary changes in the duct system and installed components to increase the air pressure. Refer to 6 Commissioning .
	The spring return damper on outdoor or exhaust duct is closed or not fully open.	Adjust the spring return damper.
	There is blockage in the air inlet or the duct system.	Remove the blockage.
There is unusual noise when the product starts or operates.	The product is not applicable for the installation location.	Make sure that the product is applicable for the installation location.
	There is strain in the connections of the duct system.	Loosen the connections, align the parts of the duct system correctly and tighten the connections.

Problem	Cause	Solution
Thermal contacts, PTC or resistors are released.	The fan impeller does not turn in the correct direction.	Make sure that the electrical connection is correctly done.
	A phase loss occurred.	If the motor is a 3-phase motor, make sure that no phase is missing.
	The motor is overheated.	<ul style="list-style-type: none"> Do a check of the motor cooling impeller. If it is possible, measure the resistance to do a check of the motor winding.
	The capacitor is not connected or not correctly connected.	Connect the capacitor correctly. Refer to the included motor wiring diagram.
	There is blockage in the motor.	Speak to Systemair technical support.
The fan speed does not get the nominal value.	Defective motor winding.	If it is possible, measure the resistance to do a check of the motor winding.
	The speed control is not correctly set.	Set the speed control correctly.
	The fan impeller cannot turn freely because of mechanical blockage.	Remove the blockage.
	Phase loss occurs.	If the motor is a 3-phase motor, make sure that no phase is missing.
The motor does not rotate.	A component in the power supply is defective.	Do a check of the power supply. Replace defective components and connect the power supply again.
	The electrical connection is not correctly done.	Make sure that the electrical connection agrees with the wiring diagrams.
	The motor protection is released because the motor is overheated.	Let the motor become cool. Reset the motor protection. Find the cause of the overheated motor.
	A phase loss occurred.	If the motor is a 3-phase motor, make sure that no phase is missing.
The electronic components or the motor is overheated.	The motor is overloaded or the ambient temperature is too high.	Let the motor become cool. Reset the motor protection. Find the cause of the overheated motor.
	The motor is overloaded.	Make sure that the product is applicable for the installation location.
	The ambient temperature is too high.	Make sure that the product is applicable for the installation location.
	The cooling of the product is not sufficient.	Make sure that the space around the motor is sufficient to keep the temperature down.

10 Disposal

The product follows the WEEE directive. This symbol on the product or the packaging of the product shows that this product is not domestic waste. The product must be recycled at an approved disposal location for electrical and electronic equipment.



10.1 To disassemble and discard the parts of the product

- 1 Disconnect and disassemble the product in the opposite sequence of electrical connection and installation.
- 2 Recycle the product parts and the packaging at an applicable disposal location.
- 3 Obey the local and national requirements for disposal.

11 Warranty

For warranty claims, send a written maintenance plan and the commissioning report to Systemair. The warranty is only applicable for these conditions:

- The product is correctly installed and operated.
- Motor protection is used.
- The instructions in the data sheets are obeyed.
- Maintenance instructions are obeyed.
- The product is operated for a minimum of 1 hour each month.

12 Technical data

12.1 DKEX

Rated data									
Fan type	Voltage/Frequency	P (kW)	I ₁ A	rpm min-max	Isol. Class	Weight kg	Min. Flow m ³ /h	Max. Flow m ³ /h	
DKEX 225-4	230V(Δ) 3~ 50 Hz	0.5	1.52	490-1470	F	13	200	1800	
	380-400V(Y) 3~ 50Hz		0.88						
DKEX 250-4	230V(Δ) 3~ 50 Hz	0.9	3.1	460-1470	F	17	200	2600	
	380-415V(Y) 3~ 50Hz		1.8						
DKEX 280-4	230V(Δ) 3~ 50 Hz	1.3	3.9	390-1475	F	24	200	3150	
	380-415V(Y) 3~ 50Hz		2.25						
DKEX 315-4	230V(Δ) 3~ 50 Hz	2.1	6.8	555-1495	F	35.5	200	3850	
	380-415V(Y) 3~ 50Hz		3.9						
DKEX 355-6	230V(Δ) 3~ 50 Hz	1.8	6.5	310-980	F	39	200	5300	
	380-415V(Y) 3~ 50Hz		3.76						
KTEX 50-25-4	230V(Δ) 3~ 50Hz	0.5	1.52	500-1470	F	17	200	1800	
	380-400V(Y) 3~ 50Hz		0.88						
KTEX 50-30-4	230V(Δ) 3~ 50Hz	0.9	3.1	470-1490	F	22.5	200	2560	
	380-415V(Y) 3~ 50Hz		1.8						
KTEX 60-30-4	230V(Δ) 3~ 50 Hz	1.3	3.9	415-1450	F	30.5	200	3150	
	380-415V(Y) 3~ 50Hz		2.25						
KTEX 60-35-4	230V(Δ) 3~ 50 Hz	2.1	6.8	590-1480	F	35.5	200	3750	
	380-415V(Y) 3~ 50Hz		3.9						
KTEX 70-40-6	230V(Δ) 3~ 50 Hz	1.6	6.2	330-985	F	48	200	5100	
	380-415V(Y) 3~ 50Hz		3.6						

1. The current may only exceed the rated currents on the rating plate by the ratio (%) given as long as the total power consumption does not exceed the rated power given.

		Min. static back pressure (Pa)				
Fan type	I _{max}	1	2	3	4	5
	Cntrl.(A)					
DKEX 225-4	1.64	0	0	0	55	125
	0.95	0	0	0	55	125
DKEX 250-4	3.27	0	0	0	10	60
	1.9	0	0	0	10	60
DKEX 280-4	4.35	0	0	45	155	300
	2.5	0	0	45	155	300
DKEX 315-4	8	0	0	15	40	300
	4.6	0	0	15	40	300

		Min. static back pressure (Pa)				
Fan type	I _{max}	1	2	3	4	5
	Cntrl.(A)					
DKEX 355-6	6.5	0	0	0	0	0
	3.76	0	0	0	0	0
KTEX 50-25-4	1.64	0	0	0	40	110
	0.95	0	0	0	40	110
KTEX 50-30-4	3.27	0	0	0	0	40
	1.9	0	0	0	0	40
KTEX 60-30-4	4.35	0	0	30	105	250
	2.5	0	0	30	105	250
KTEX 60-35-4	8	0	0	0	0	225
	4.6	0	0	0	0	225
KTEX 70-40-6	6.5	0	0	0	0	0
	3.76	0	0	0	0	0

Step	1	2	3	4	5
Voltages 230V 1~	80V	105V	130V	160V	230V
Voltages 400V (Y) 3~	95V	145V	190V	240V	400V
Voltages 230V 3~(Δ)	55V	85V	110V	140V	230V

12.2 KTEX

Rated data								
Fan type	Voltage/Frequence	P (kW)	I ¹ A	rpm min-max	Isol. Class	Weight kg	Min. Flow m ³ /h	Max. Flow m ³ /h
KTEX 50-25-4	230V(Δ) 3~ 50Hz	0.5	1.52	500–1470	F	17	200	1800
	380-400V(Y) 3~ 50Hz		0.88					
KTEX 50-30-4	230V(Δ) 3~ 50Hz	0.9	3.1	470-1490	F	22.5	200	2560
	380-415V(Y) 3~ 50Hz		1.8					
KTEX 60-30-4	230V(Δ) 3~ 50 Hz	1.3	3.9	415-1450	F	30.5	200	3150
	380-415V(Y) 3~ 50Hz		2.25					
KTEX 60-35-4	230V(Δ) 3~ 50 Hz	2.1	6.8	590-1480	F	35.5	200	3750
	380-415V(Y) 3~ 50Hz		3.9					
KTEX 70-40-6	230V(Δ) 3~ 50 Hz	1.6	6.2	330-985	F	48	200	5100
	380-415V(Y) 3~ 50Hz		3.6					

1. The current may only exceed the rated currents on the rating plate by the ratio (%) given as long as the total power consumption does not exceed the rated power given.

		Min. static back pressure (Pa)				
Fan type	I _{max}	1	2	3	4	5
	Cntrl.(A)					
KTEX 50-25-4	1.64	0	0	0	40	110
	0.95	0	0	0	40	110
KTEX 50-30-4	3.27	0	0	0	0	40
	1.9	0	0	0	0	40
KTEX 60-30-4	4.35	0	0	30	105	250
	2.5	0	0	30	105	250
KTEX 60-35-4	8	0	0	0	0	225
	4.6	0	0	0	0	225
KTEX 70-40-6	6.5	0	0	0	0	0
	3.76	0	0	0	0	0

13 Product dimensions

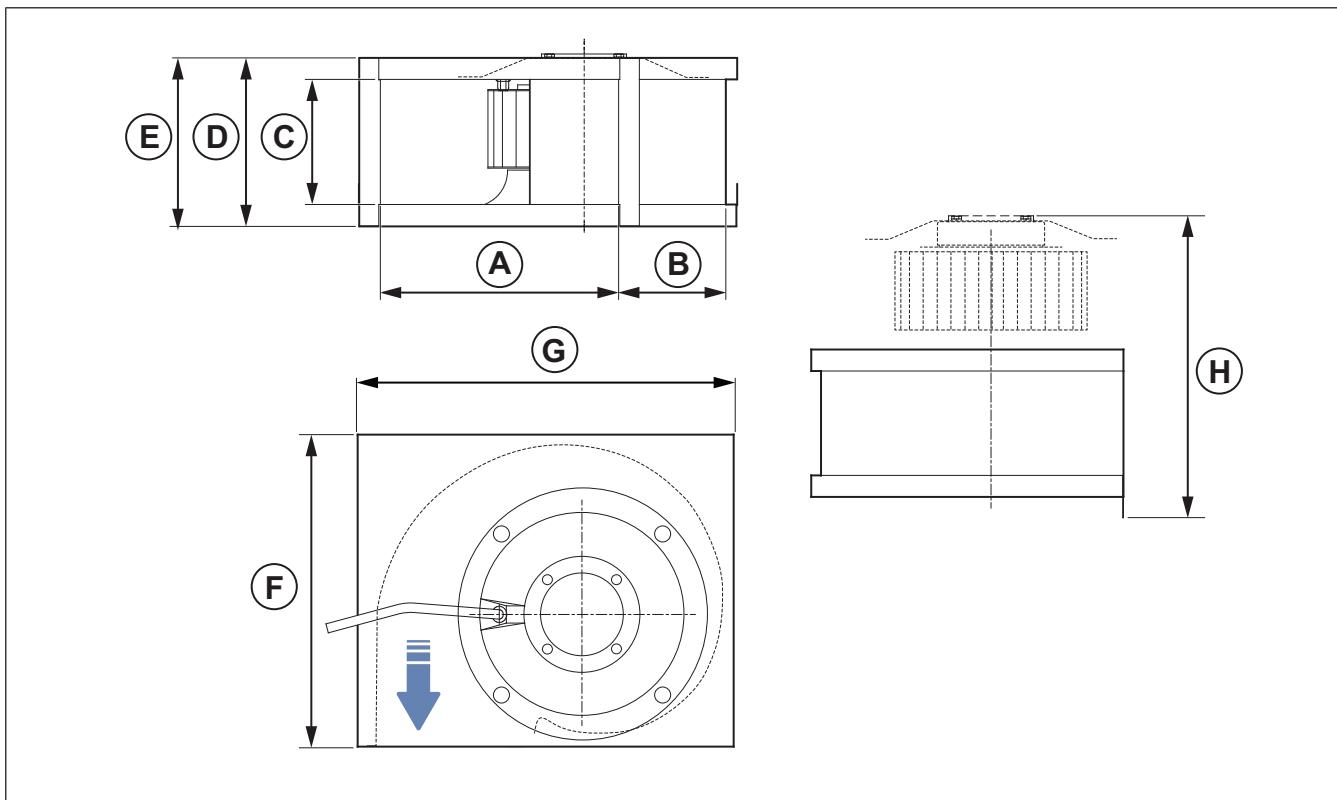
Note:

If the unit of measure is not specified, the dimensions are given in millimetres.

Note:

The arrow in the dimension drawing shows the direction of the airflow.

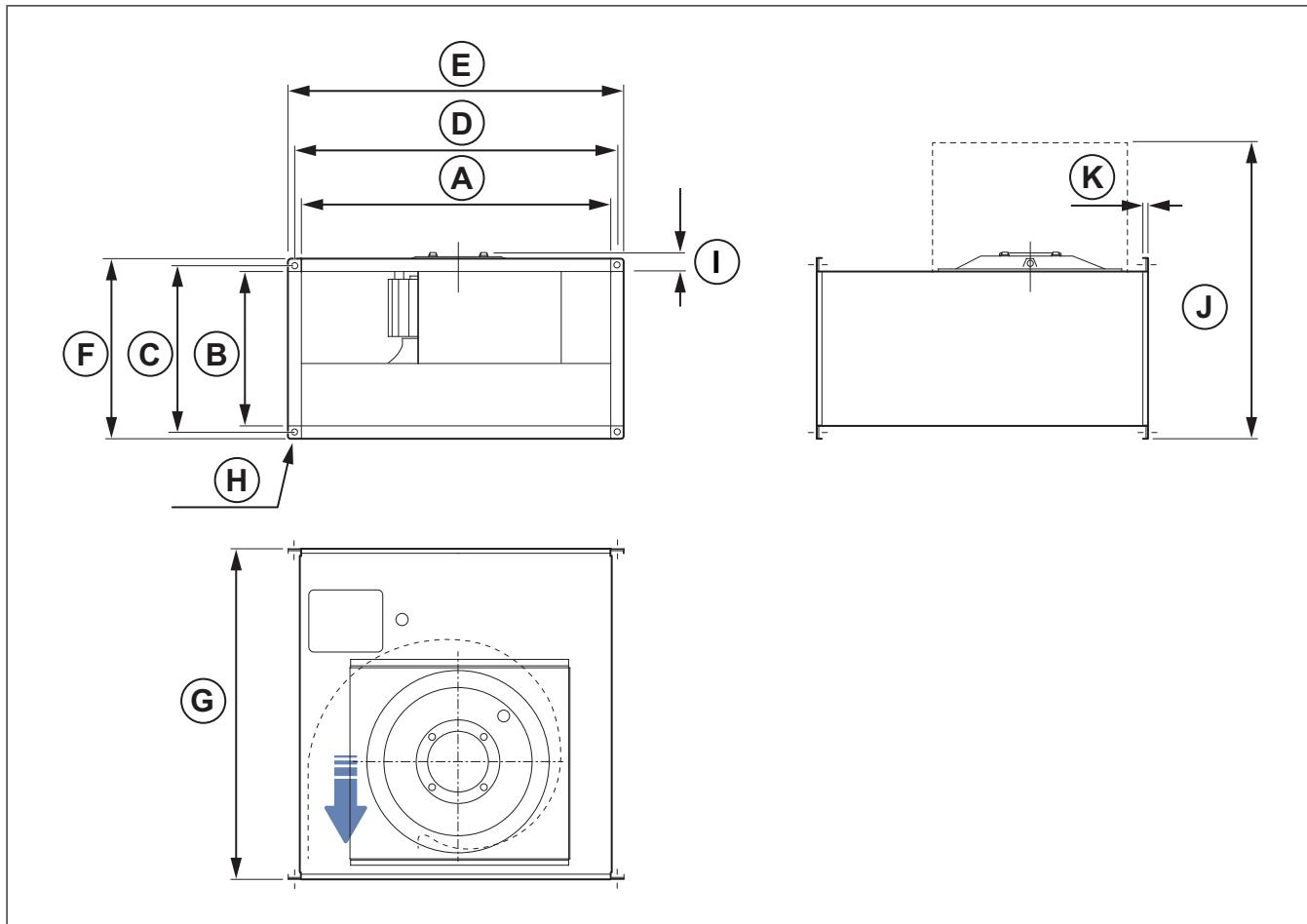
13.1 Product dimensions DKEX



	A	B	C	D	E	F	G	H ¹
DKEX 225	280	133	145	196	196	367	445	337
DKEX 250	315	154	165	216	243	410	492	375
DKEX 280	357	169	180	230	248	453	547	413
DKEX 315	400	188	203	254	276	515	615	465
DKEX 355	450	213	227	278	320	574	689	489

1. Minimum dimensions to remove the motor out of casing

13.2 Product dimensions KTEX



	A	B	C	D	E	F	G	ØH	I 1	J 2	K
KTEX 50-25	498	248	270	520	540	290	532	10	34.5	610	8
KTEX 50-30	498	298	320	520	540	340	562	10	34.5	695	8
KTEX 60-30	598	298	320	620	640	340	642	10	52	715	8
KTEX 60-35	598	348	370	620	640	390	717	10	54.5	805	8
KTEX 70-40	698	398	420	720	740	440	787	10	50	900	8

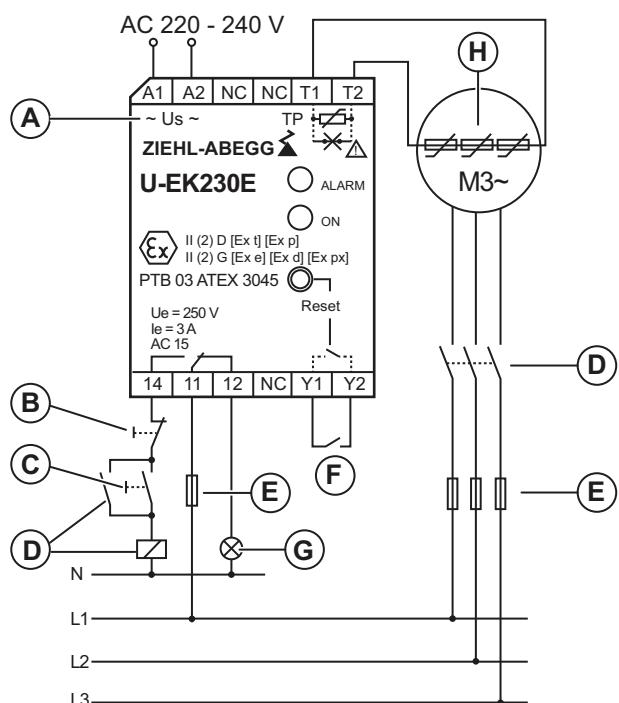
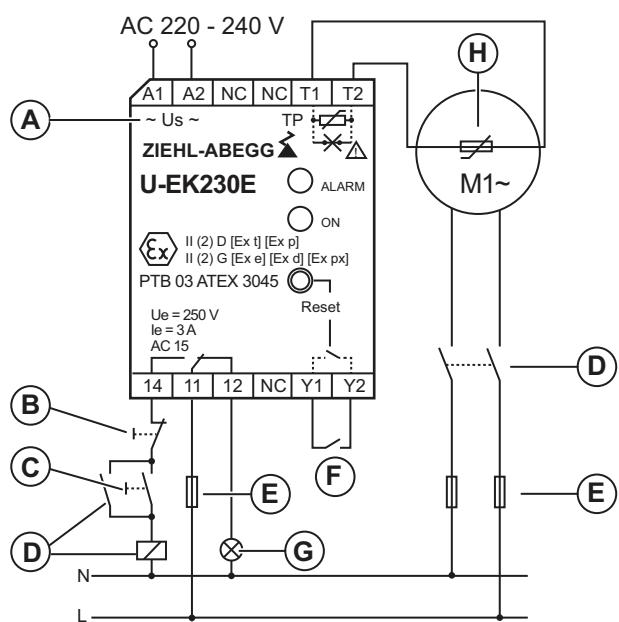
1. Dimensions from the motor bolts
2. Dimensions with fully open hatch

14 Wiring diagrams

	3-phase 230 V (D)	3-phase 400 V (Y)	3-phase 400 V / 230 V
DKEX 225–4 KTEX 50–25–4			
DKEX 250–4 KTEX 50–30–4			
DKEX 280–4 KTEX 60–30–4			
DKEX 315–4 KTEX 60–35–4			
DKEX 355–6 KTEX 70–40–6			

14.1 Wiring diagram for motor protection for ATEX motors

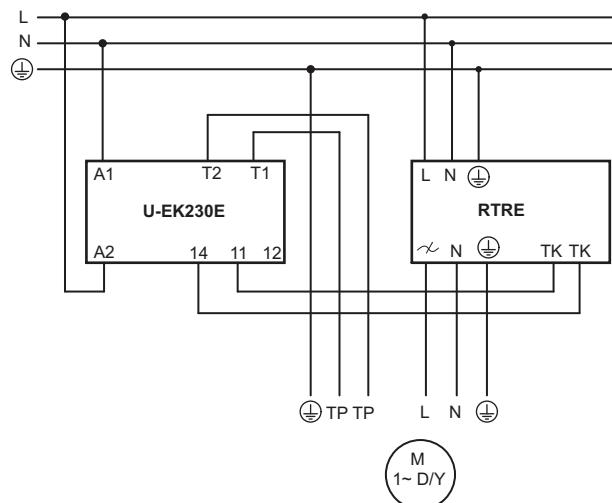
U-EK230E



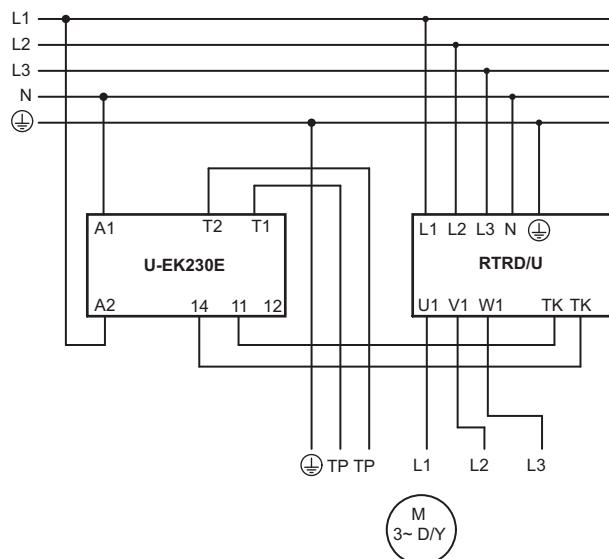
- A. Supply voltage (Us)
- B. Push button off (S1)
- C. Push button on (S2)
- D. Contactor (K1)
- E. Fuses (F1–F4)
- F. Push button external reset (S3)
- G. Fault indicator (H1)
- H. PTC termistor (TP)

14.2 Wiring diagram for speed controller for ATEX motors

U-EK230E + RTRE

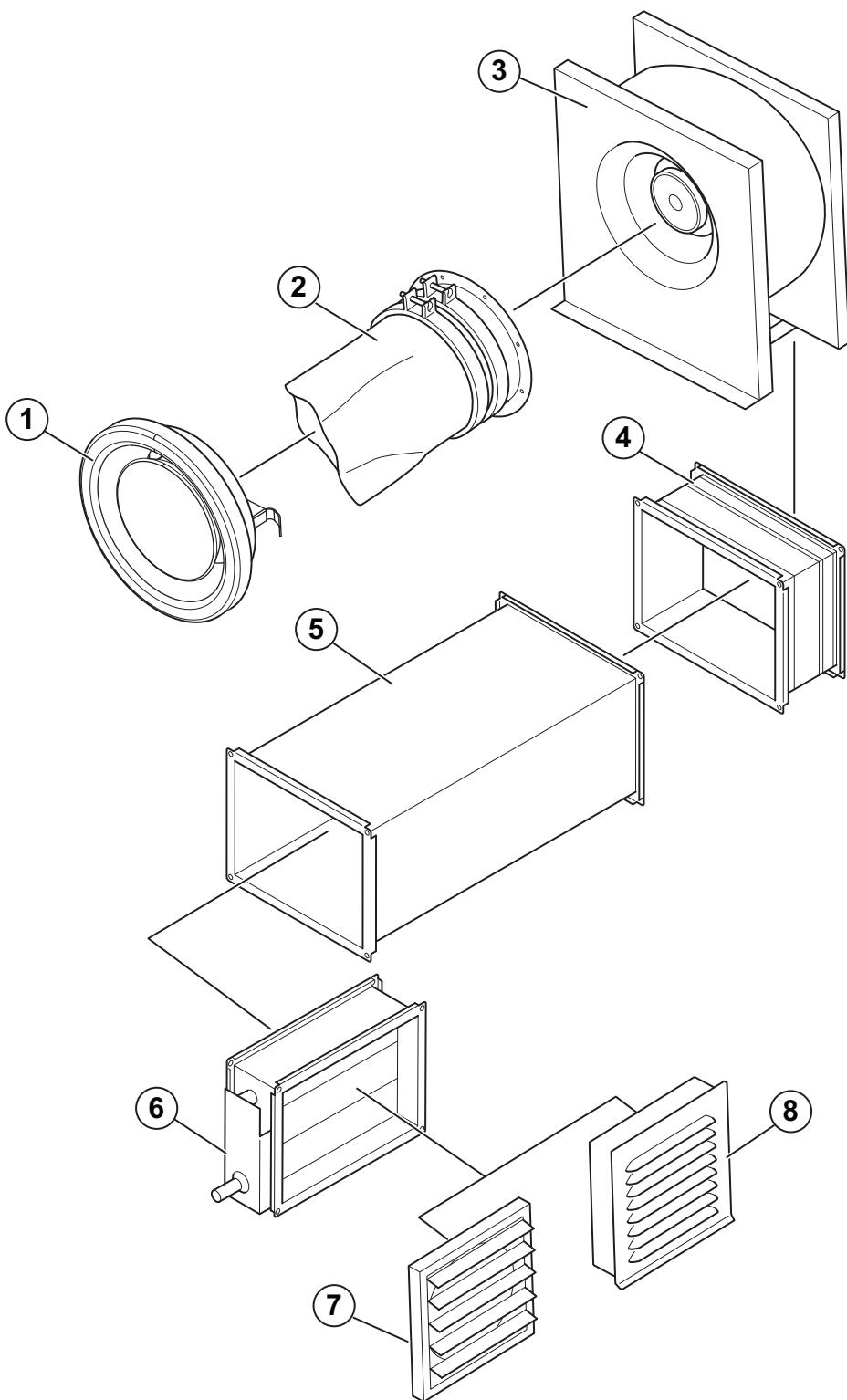


U-EK230E + RTRD, RTRDU



15 Accessory overview

15.1 Accessory overview DKEX

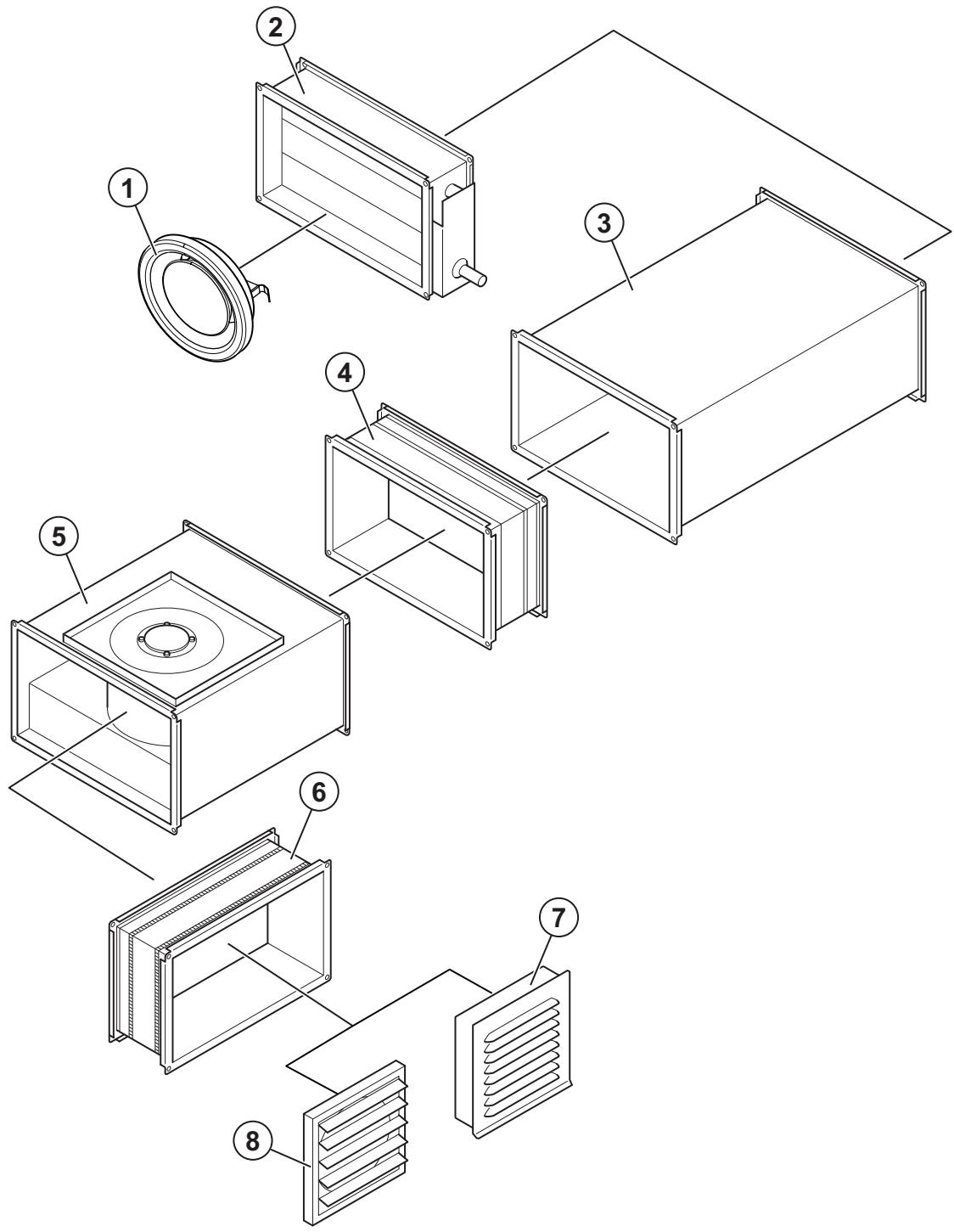


- | | |
|------------------------------|-------------------------------|
| 1. EFF: Extract air valve | 5. LDR: Silencer |
| 2. ISE: Flexible connection | 6. SRK: Volume control camper |
| 3. DKEX: Explosion proof fan | 7. VK: Louvre shutter |
| 4. USE: Flexible connection | 8. IGK: Wall grid |

Note:

The selection of accessories shown are not supplied with the product. For more information and other available accessories, refer to www.systemair.com or speak to Systemair technical support.

15.2 Accessory overview KTEX



- | | |
|-------------------------------|------------------------------|
| 1. EFF: Extract air valve | 5. KTEX: Explosion proof fan |
| 2. SRK: Volume control damper | 6. DS: Flexible connection |
| 3. LDR: Silencer | 7. VK: Louvre shutter |
| 4. DS: Flexible connection | 8. IGK: Wall grid |

Note:

The selection of accessories shown are not supplied with the product. For more information and other available accessories, refer to www.systemair.com or speak to Systemair technical support.

16 EU Declaration of Conformity

We, the manufacturer

Manufacturer	Systemair Production AB
Address	Industrivägen 3 739 30 Skinnskatteberg Sweden

declare under our sole responsibility that the products

Machine	Explosion proof fan
Type/Model	DKEX, KTEX
Notified body	Number 2460, DNV Product Assurance AS

fulfils the relevant provisions of following directives and standards

ATEX Directive 2014/34/EU

EN 60079-0:2018

Explosive atmospheres – Part 0: Equipment – General requirements.

EN 60079-7:2018

Explosive atmospheres – Part 7: Equipment protection by increased safety "e".

EN 14986:2017

Explosive atmospheres – Design of fans working in potentially explosive atmospheres.

Machinery Directive 2006/42/EC

EN ISO 12100:2010

Safety of machinery – General principles for design – Risk assessment and risk reduction.

EN ISO 13857:2019

Safety of machinery – Safety distances to prevent hazard zones being reached by upper or lower limbs.

EN 60529:2014

Degrees of protection provided by enclosures (IP Code).

Directive electromagnetic compatibility (EMC) 2014/30/EU

EN 61000-6-2:2005

Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments.

EN 61000-6-3:2007

Electromagnetic compatibility (EMC) – part 6-3: Generic standards – emission standard for residential, commercial and light-industrial environments.

RoHS Directive 2011/65/EU

EN IEC 63000:2018

Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Persons authorized to compile the technical file:



Tomas Angelhag

Head Of Engineering

This declaration relates exclusively to the machinery in the state in which it was placed on the market and excludes components which are added or operations carried out subsequently by the final user.

Skinnskatteberg, Sweden 2024-12-01



Sofia Rask

Managing Director



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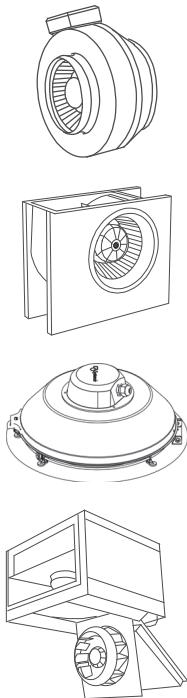
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EOE

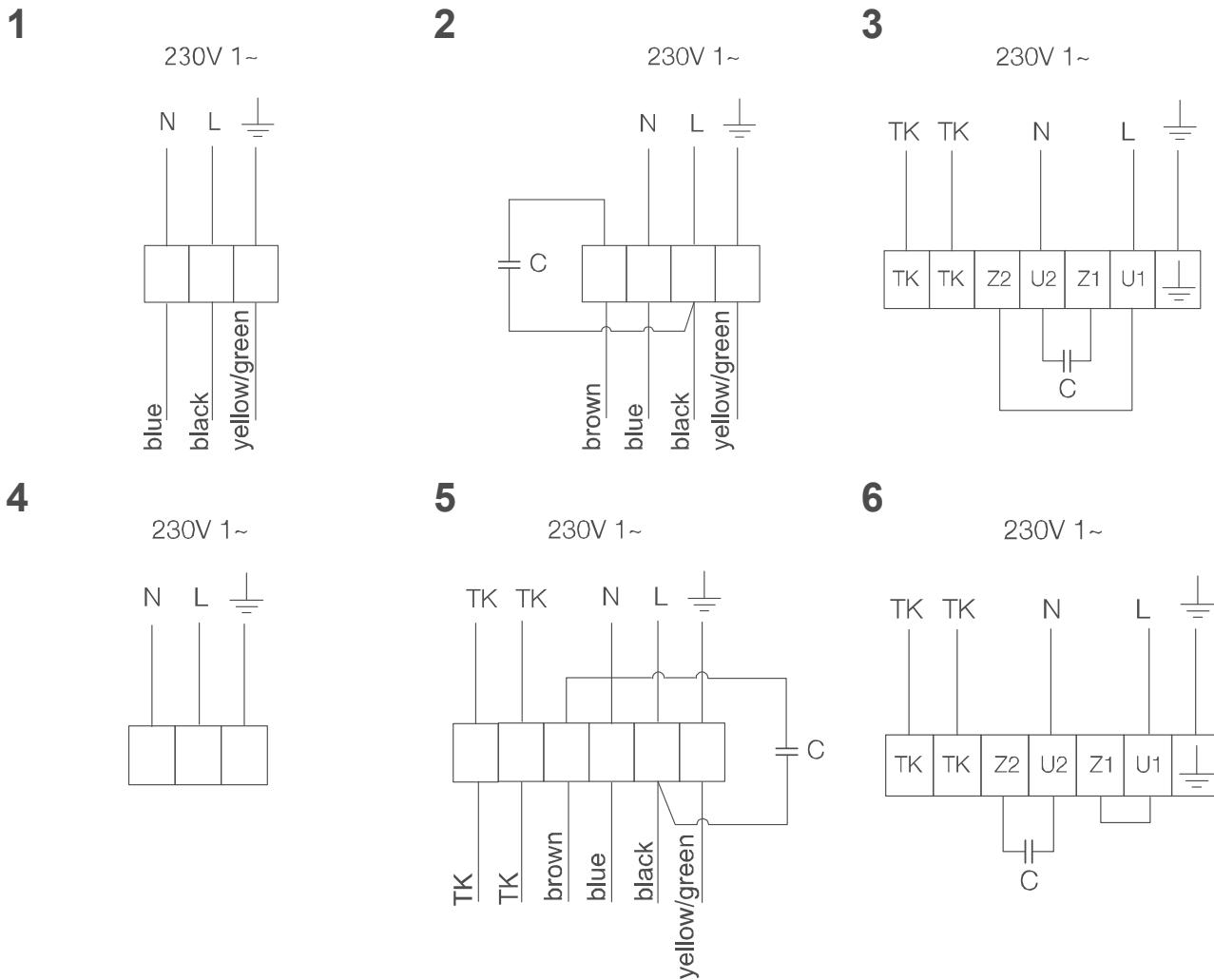
Systemair AB reserves the rights to alter their products without notice. This also applies to products already ordered, as long as it does not affect the previously agreed specifications.

Fans



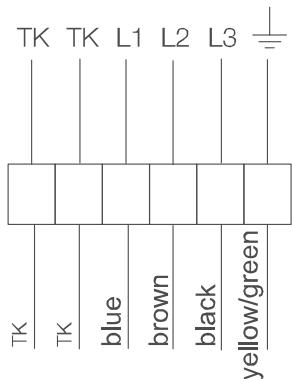
GB	Operation and maintenance instructions, (Original).....	5
TR	İşletim ve Bakım Klavuzu.....	8
NO	Drift og vedlikeholdsinstruksjon	11
SE	Drift och underhållsinstruktion.....	13
FR	Notice de montage et branchement.....	16
FI	Käyttö- ja huolto-ohjeet	18
RU	Инструкция по монтажу	20
DE	Betriebsanleitung	23
NL	Gebruiks- en onderhoudsinstructies	25
DK	Drift- og vedlikeholdelseinstruktion	28
PL	Eksplotacja i konserwacja.....	30
PT	Instruções de funcionamento e manutenção	33
IT	Norme di funzionamento e manutenzione	36
RO	Istrucțiuni de functionare și întreținere	39
ES	Instrucciones de funcionamiento y de mantenimiento	41
LT	Montavimo instrukcija	44
LV	Lietošanas un montāžas instrukcija	46
SI	Navodila za uporabo in vzdreževanje	48
EE	Kasutus- ja hooldusjuhend.....	50
HR	Upute za uporabu i održavanje	52
RS	Uputstvo za upotrebu i odrzavanje	55

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		



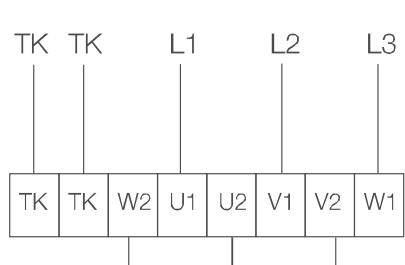
7

400V 3~



8

400V 3~



8

230V 3~ (D)

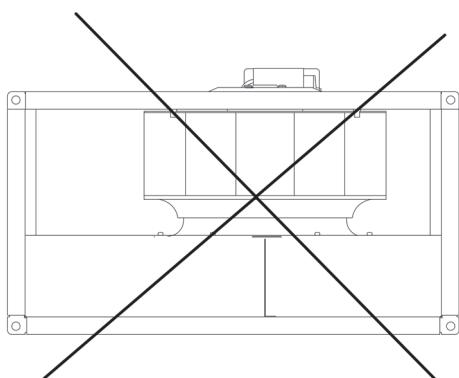
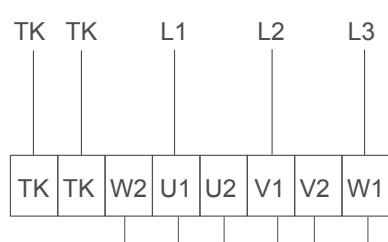
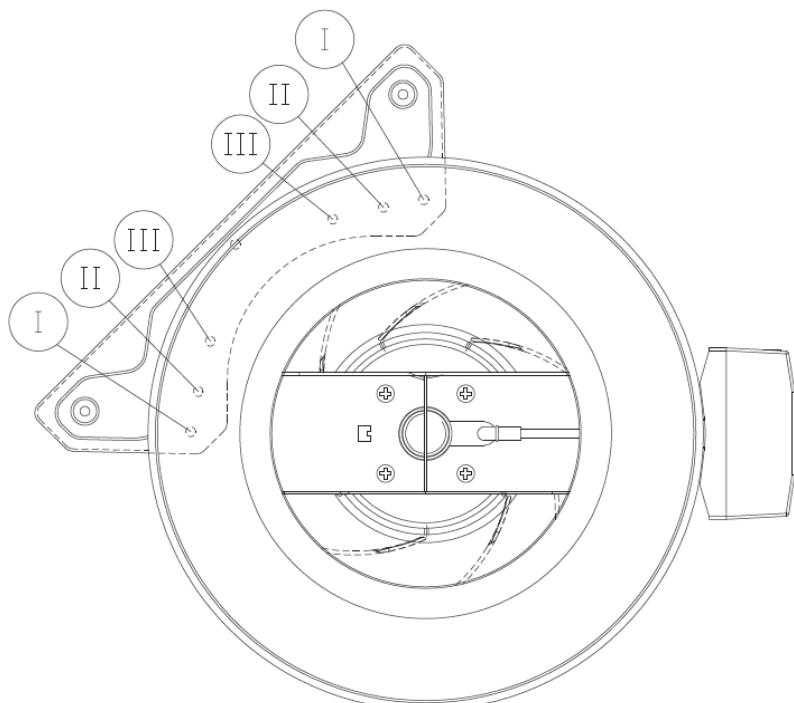
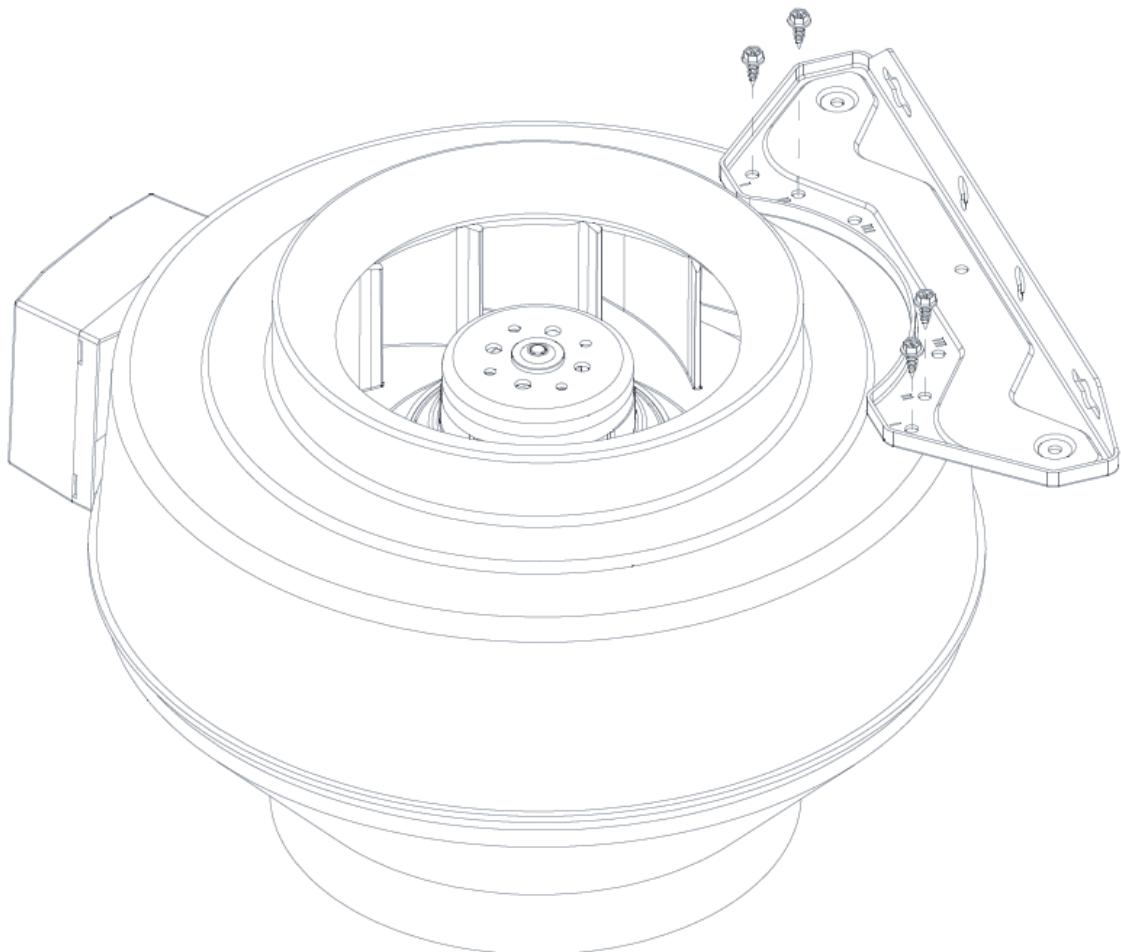


fig. 1



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



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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 being reached 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 the following:

- 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 be 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 damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in 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.