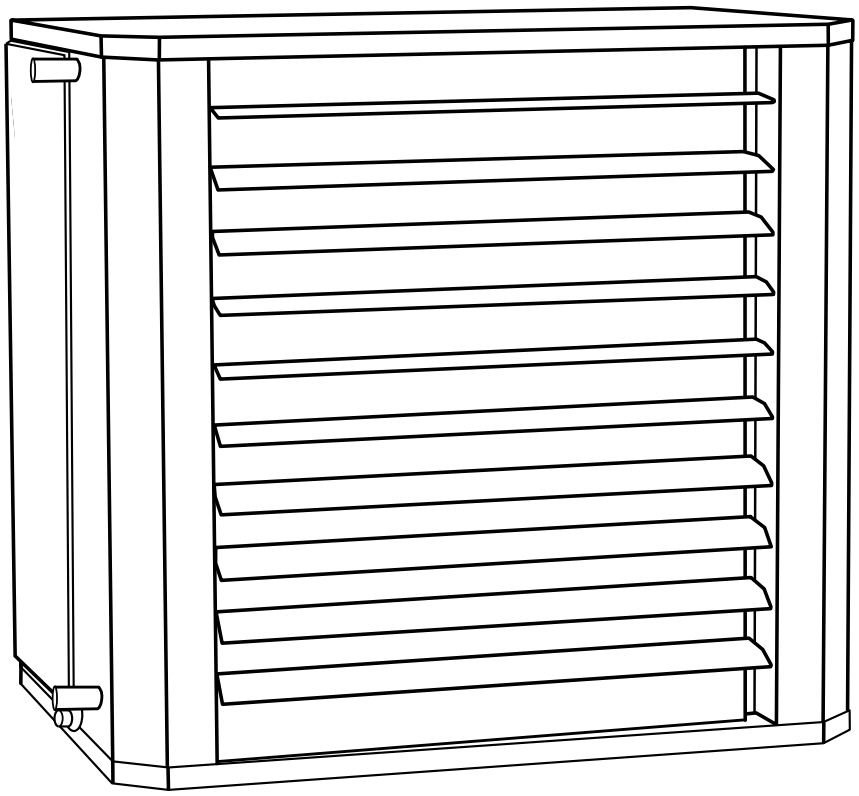
Original instructions

SWK



SE

Introduktionssidorna består huvudsakligen av bilder. För översättning av de engelska texter som används, se respektive språksidor.

EN

The introduction pages consist mainly of pictures. For translation of the English texts used, see the respective language pages.

NO

Introduksjonssidene består hovedsakelig av bilder. For oversettelse av de engelske tekstene, se de respektive språksidene

FR

Les pages de présentation contiennent principalement des images. Consulter la page correspondant à la langue souhaitée.

DE

Die Einleitungsseiten bestehen hauptsächlich aus Bildern. Für die Übersetzung der verwendeten Texte in englischer Sprache, siehe die entsprechenden Sprachseiten.

ES

Las páginas introductorias contienen básicamente imágenes. Consulte la traducción de los textos en inglés que las acompañan en las páginas del idioma correspondiente.

NL

De inleidende pagina's bevatten hoofdzakelijk afbeeldingen. Voor een vertaling van de gebruikte Engelse teksten, zie de pagina's van de resp. taal.

IT

Le pagine introduttive contengono prevalentemente immagini. Per le traduzioni dei testi scritti in inglese, vedere le pagine nelle diverse lingue.

PL

Początkowe strony zawierają głównie rysunki. Tłumaczenie wykorzystanych tekstów angielskich znajduje się na odpowiednich stronach językowych.

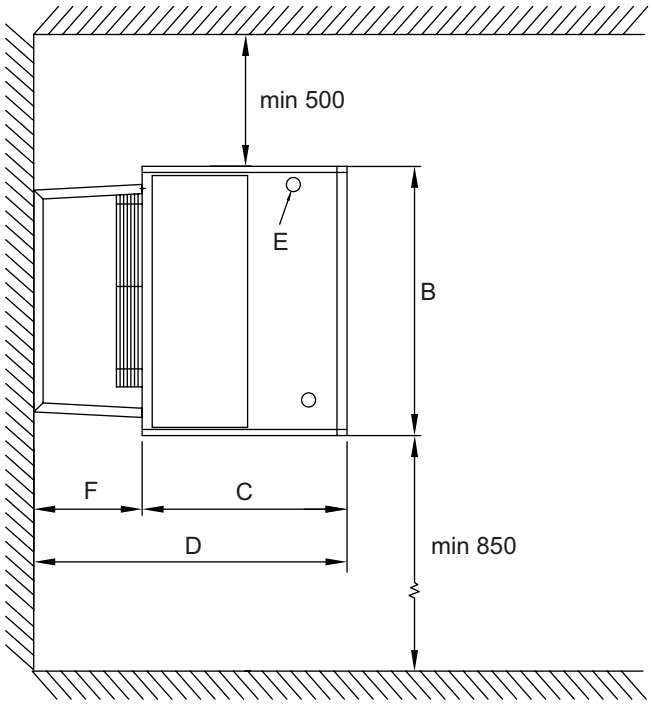
RU

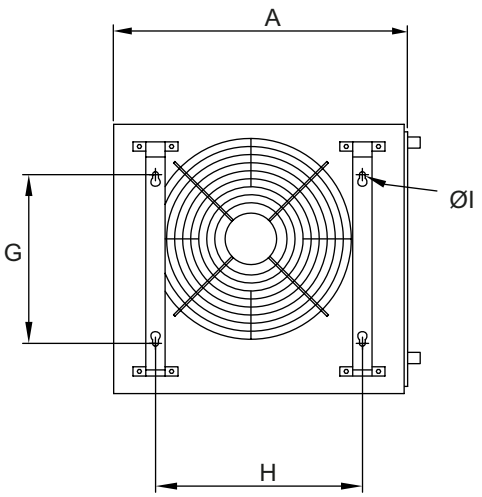
Страницы в начале Инструкции состоят в основном из рисунков, схем и таблиц. Перевод встречающегося там текста приведен в разделе RU.

FI

Esittelysivut koostuvat lähinnä kuvista. Suvuilla olevien enlanninkielisten sanojen käännökset löytyvät ko. kielisivuilta.

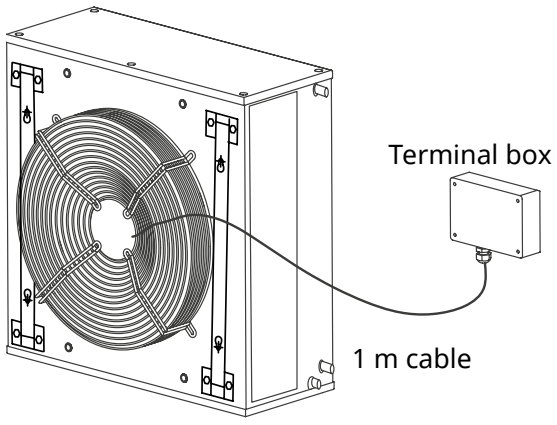
SWK





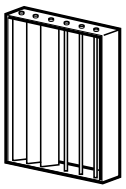
[mm]	A	B	C	D	E	F	G	H	ØI
SWK12/ SWKEC12	730	670	510	780	28	270	420	515	10
SWK22/ SWKEC22	920	875	510	780	28	270	550	700	10

Electrical installation 230V~



Accessories

Item number	Type		Dimensions [mm]
414655	**SDB12**	SWK12/ SWKEC12	675x654x82
414656	**SDB22**	SWK22/ SWKEC22	880x784x82



SDB

Controls SWKEC

Item number	Type	Dimensions [mm]
76649	**FCR230**	120x102x29

FCR230

Controls SWK

Item number	Type	Dimensions [mm]
11651	**TKS16**	80x80x39
5999	**KRT1900**	165x57x60
10214	**KRTV19**	165x57x60

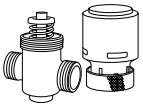
TKS16

KRT1900

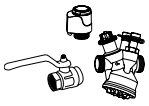
KRTV19

Valve systems SWKEC

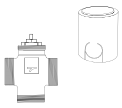
Item number	Type	
157457	**VPTK1504**	DN15 Kvs 0,4
157458	**VPTK1506**	DN15 Kvs 0,6
157459	**VPTK2025**	DN20 Kvs 2,5
157460	**VPTK2040**	DN20 Kvs 4,0
456586	**VPTK15NFNC**	DN15
456587	**VPTK15LFNC**	DN15 Low flow
398214	**VPTK20NC**	DN20
398215	**VPTK25NC**	DN25
454159	**VPTK32NC**	DN32
457399	**VOT15NC**	DN15
457400	**VOT20NC**	DN20
457401	**VOT25NC**	DN25



VPTK



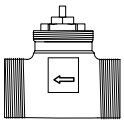
VPTK_NC



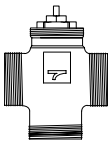
VOT_NC

Valve systems SWK

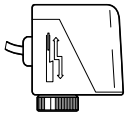
Item number	Type	
24729	**TVVS20**	DN20
24730	**TVVS25**	DN25
19019	**TRVS20**	DN20
19020	**TRVS25**	DN25
10073	**SD20**	230V



TVVS20/25



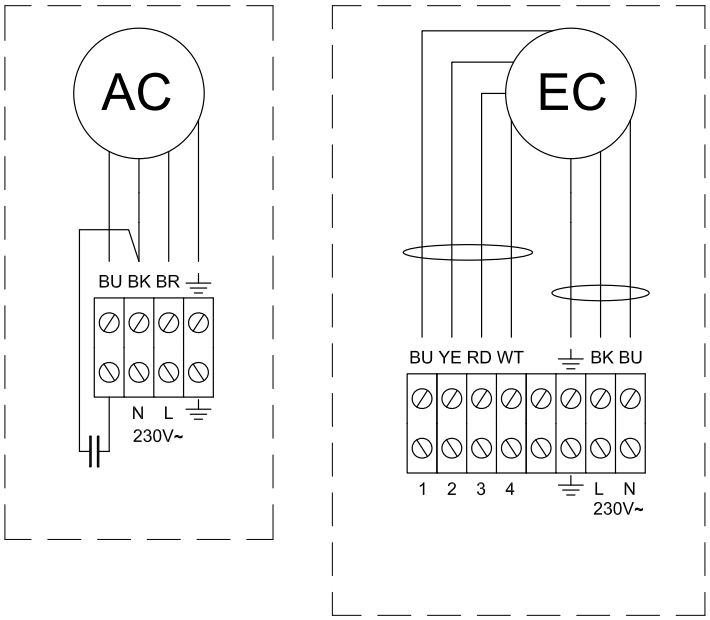
TRVS20/25



SD20

Wiring diagrams SWK

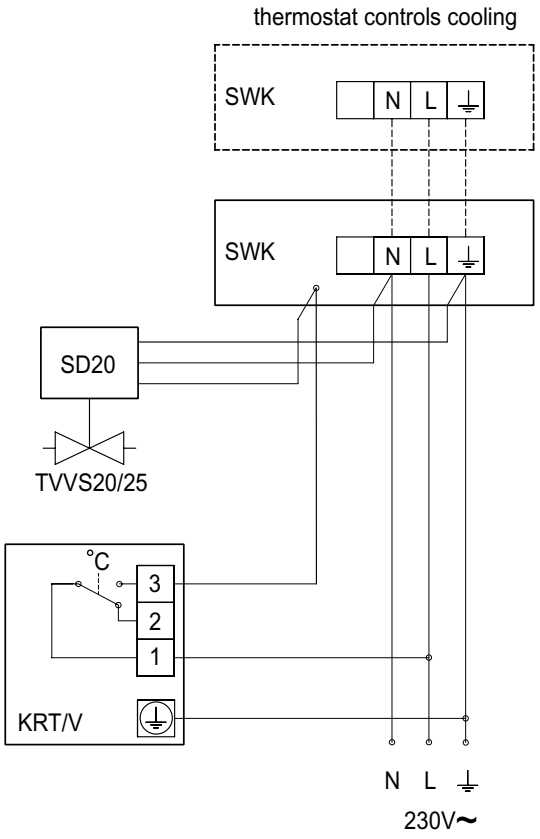
Internal

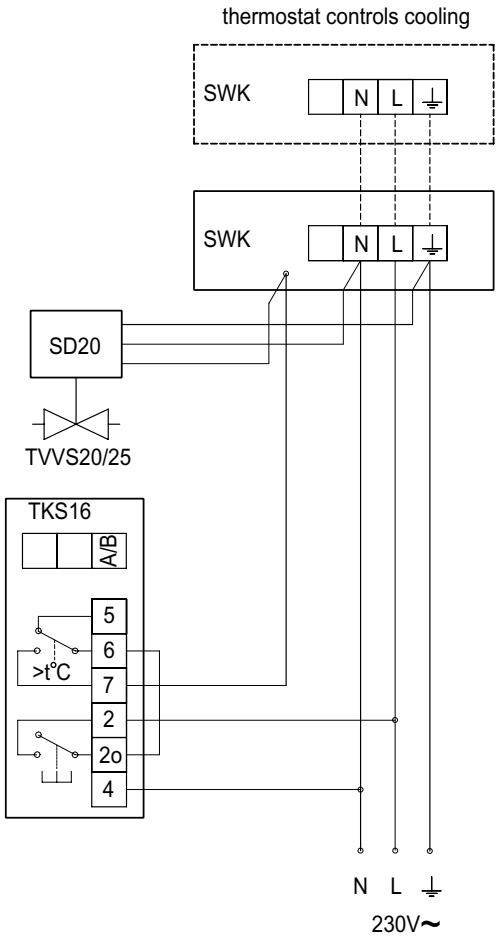


	SE	EN	NO	DE	ES	FR	IT	NL	FI	PL	RU	DK
BU	Blå	Blue	Blå	Blau	Azul	Bleu	Blu	Blauw	Sininen	Niebieski	Синий	Blå
BK	Svart	Black	Svart	Schwarz	Negro	Noir	Nero	Zwart	Musta	Czarny	Черный	Sort
BR	Brun	Brown	Brun	Braun	Marrón	Marron	Marrone	Bruin	Ruskea	Brązowy	Коричневый	Brun
RD	Röd	Red	Rød	Rot	Rojo	Rouge	Rosso	Rood	Punainen	Czerwony	красный	Rød
YE	Gul	Yellow	Gul	Gelb	Amarillo	Jaune	Giallo	Geel	Keltainen	Żółto	Желтый	Gul
WT	Vit	White	Hvit	Weiß	Blanco	Blanc	Bianco	Wit	Valkokoinen	Biały	Белый	Hvid

SWK

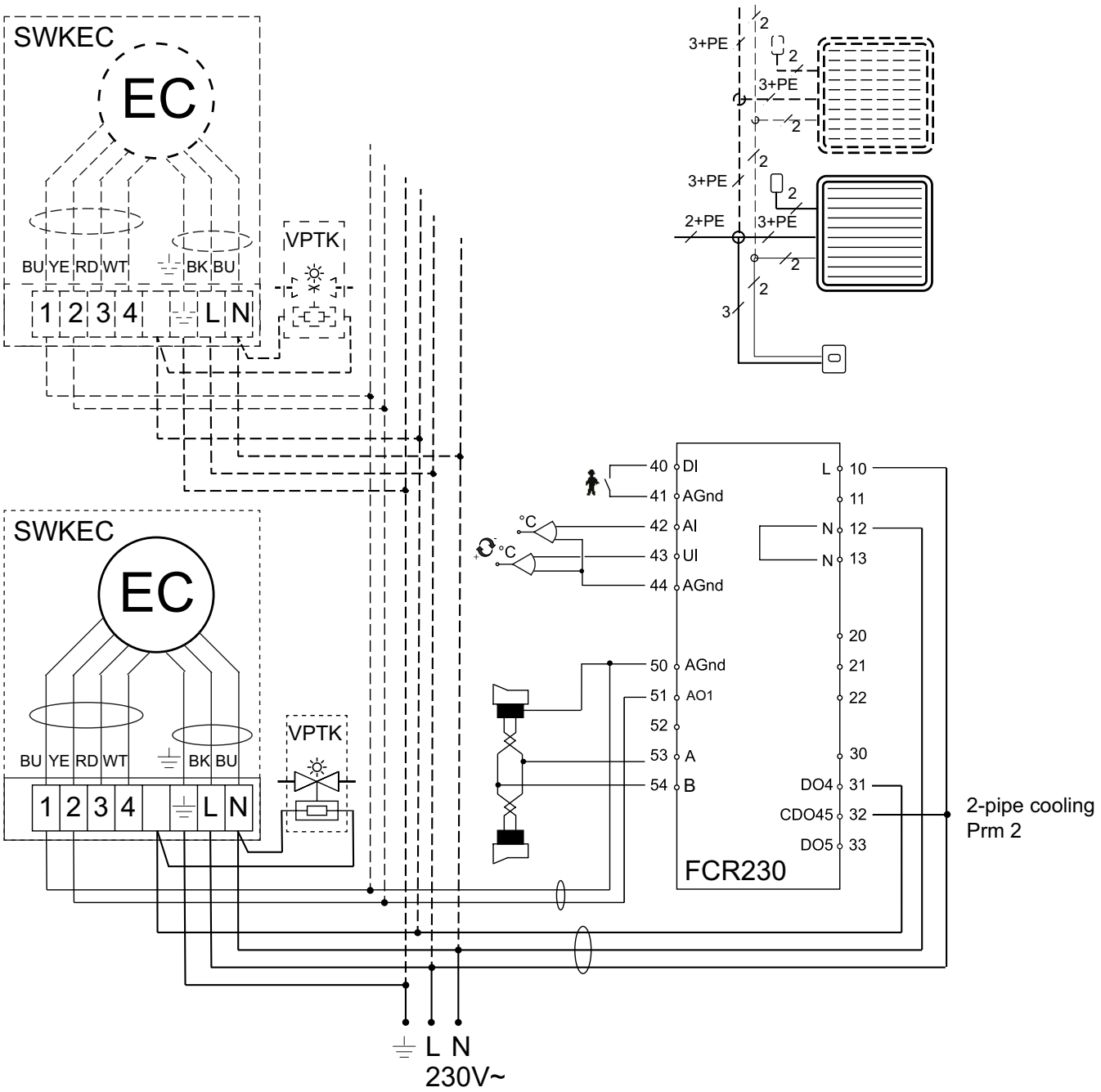
Control by thermostat only





SWKEC

FCR230



Fan cooler SWKEC, EC motor (IP54)

Art. no	Type	Cooling output (total)*1 [kW]	Cooling output (sensible)*1 [kW]	Airflow [m³/h]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Air throw [m]	Water volume*4 [l]	Voltage [V]	Amperage [A]	Weight [kg]
449522	**SWKEC12**	6,6	5,1	2000	68	51	8	3,0	230V~	0,55	51
449523	**SWKEC22**	11,5	8,9	3500	78	59	8	5,1	230V~	1,35	66

Fan cooler SWK, AC motor (IP44)

Art. no	Type	Cooling output (total)*1 [kW]	Cooling output (sensible)*1 [kW]	Airflow [m³/h]	Sound power*2 [dB(A)]	Sound pressure*3 [dB(A)]	Air throw [m]	Water volume*4 [l]	Voltage [V]	Amperage [A]	Weight [kg]
414653	**SWK12**	6,6	5,1	2000	68	51	8	3,0	230V~	0,55	51
414654	**SWK22**	11,5	8,9	3500	78	59	8	5,1	230V~	1,35	66

CE

*1) Applies at water temperature +6/12 °C, air temperature in +25 °C, relative humidity 50 %.
*2) Sound power (L_{WA}).
*3) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres.
*4) Water volume inside water coil.

Intended for water temperatures from 0 °C up to +150 °C and 16 bar.
Max. surrounding temperature +40 °C.

Output charts water

SWK/SWKEC

		Supply / return water temperature 6/12 °C, relative humidity 50 %.									
		Air temp. in = +25 °C					**Air temp. in = +30 °C**				
Type	**Airflow [m³/h]**	**Cooling output (total) [kW]**	**Cooling output (sensible) [kW]**	**Air temp. out [°C]**	**Water flow [l/s]**	**Pressure drop [kPa]**	**Cooling output (total) [kW]**	**Cooling output (sensible) [kW]**	**Air temp. out [°C]**	**Water flow [l/s]**	**Pressure drop [kPa]**
SWK12 SWKEC12	2000	6,6	5,1	17,1	0,26	6,7	10,7	6,9	20	0,42	16,2
SWK22 SWKEC22	3500	11,5	8,9	17,1	0,46	6,7	18,6	12,1	20	0,74	16,2

Installation and operating instructions

General Instructions

Read these instructions carefully prior to installation and use. Keep this manual for future reference.
The product may only be used as set out in the assembly and operating instructions. The guarantee is only valid should the product be used in the manner intended and in accordance with the instructions.

Application

SWK is a fan cooler using water as energy medium and is suitable for cooling the indoor air in environments such as shops or warehouses.
It is available with EC motor, protection class IP54 or with AC motor, protection class IP44.

Fan cooler SWK

The fan cooler is available in four variants: SWK12/SWK22 with AC motor and SWKEC12/ SWKEC22 with EC motor.

- Uses cooled water as the energy medium.
- Water coil with copper pipes and aluminium fins with spacing of 4 mm minimising maintenance even in dusty places.
- The aluminium fins have a hydrophilic coating to ensure optimum cooling operation.
- Drip tray of stainless steel with a condensation insulation at the bottom.
- Adjustable air directors allowing the airflow to be adjusted vertically
- Wall brackets included.

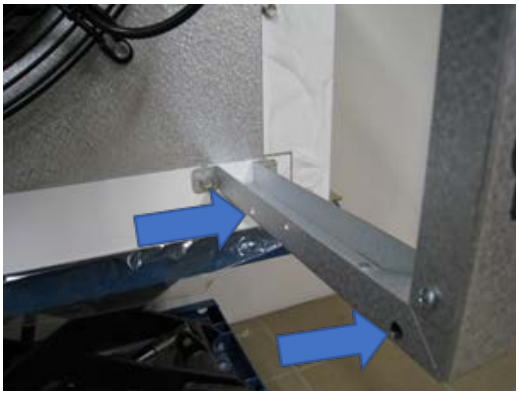
Fitting the wall brackets

1. Remove the eight screws indicated by the arrows in picture A.

2. Install the wall brackets with the holes facing the fan; see marking in Fig B. These holes are for a cable tie for the cable of the fan motor.

A

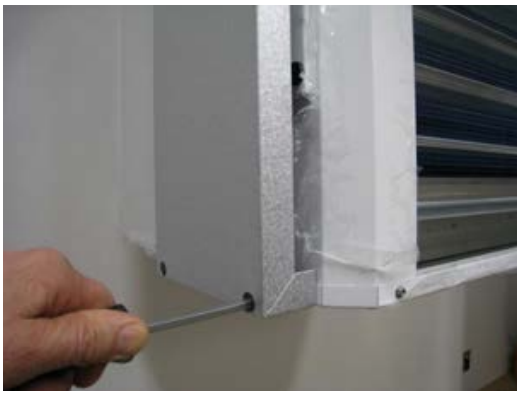
B



When installing the fan cooler, the transport locks of the pipe connections on the left side must not be removed. Make sure that the device is horizontal both in width and in depth; see the arrows in Fig. C.

C

D



Use a 1/4” screwdriver to loosen the four screws securing the transport lock; see Fig. D. Remove the transport lock, and then reinstall the screws. Leave the protective film on the white-painted sheet metal parts until the installation is complete, to keep the metal protected from scratches and other damage.

The air deflector can be turned by 180° in case the fan cooler is placed at a low position (min. 850 mm above the floor) or if the air is to be directed upwards. Loosen the eight screws with a 1/4” Allen wrench and turn the air deflector; see Fig. E.

E

Accessories

An air deflector is available as an accessory for the SWK, which directs the air to the side; see Fig. F. It is fastened to the upper and lower plates with self-tapping screws.

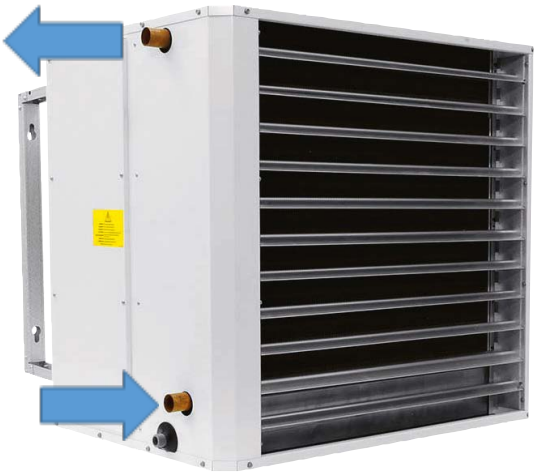
F

Installation of the water coil

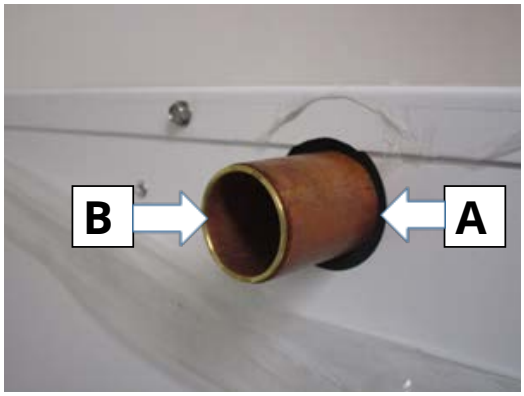
The installation must be carried out by an authorized installer. The heating coil must not be connected to a mains pressure water system or an open water system.

1. The maximum permissible temperature and pressure are indicated on the fan cooler type plate at the connection pipes.
2. Output, water temperature, flow and pressure drop can be found in the table for the respective size.
3. The fan cooler must be connected so that the coil can be drained from water when not in use and there is a risk of freezing.
4. Install a vent valve at the outlet of the fan cooler or at a central location of the system.
5. The piping connected to the fan cooler must not put a load on the inlet and outlet pipes of the fan cooler and must therefore be fixed.
6. Connect the water inlet to the lowest pipes of the cooler and the outlet to the pipes at the top, see the arrows in Fig. G. A press or clamping ring coupling is recommended for the connection. If the pipe connection is to be soldered, the pipe within the solder joint must be cooled so that the gasket inside of the plate (arrow A in Figure H) will not become hotter than 100 °C. To reduce the heat effort, remove the supporting sleeve.
7. When connecting with a press-fitting or clamping ring coupling, use the supporting sleeve because the copper pipes are soft-annealed. Make sure that the supporting sleeve is seated as shown by arrow B in Fig. H. Install the couplings according to the instructions of the respective manufacturer. When tightening the clamping ring couplings at the connecting pipes, hold them in place so that the torque is not transferred to the connecting pipes of the fan cooler.
8. The condensate drain has a G1/2” connection; see Fig. I. If the drain is connected to the floor drain with a hose, no water seal is required. If the condensate drain is connected directly to the drainage system, a water seal must be used to prevent the escape of bad odours.

G



H



I

Electrical installation

The electrical installation should be carried out by a qualified electrician in conformity with prevailing regulations. The appliance should be supplied via a triple-pole switch with at least 3 mm breaking gap.

The cable glands used must meet the protection class requirements.

See wiring diagrams.

J

1. Attach the supplied cable tie in the hole on the inside of the wall bracket where the fan motor cable is routed; see Fig. J.
2. Fix the motor cable with the cable tie; see Fig. K. Then install the control box on the wall.
3. Connect the fan cooler via the control box to 230 V AC; see Fig. L1. To minimise contamination of the fan cooler, the fan should be stopped when there is no need for cooling.

K

AC motor

See Fig. L1. See wiring diagrams.

EC motor

See Fig. L2. See wiring diagrams.

L1

L2

Conn.	Colour	Function
1	Blue	Reference ground for control interface
2	Yellow	0-10V / PWM control input, Ri=100 kΩ
3	Red	Fixed voltage output 10 VDC +/-3%, Imax. 10 mA, short-circuit-proof, power supply for ext. devices (e.g. potentiometer)
4	White	Tach output, open collector, 1 pulse per revolution, Isink max = 10 mA
L	Black	Supply connection, phase, see nameplate for voltage range
N	Blue	Supply connection, neutral conductor, see nameplate for voltage range
PE	Green / Yellow	Ground connection

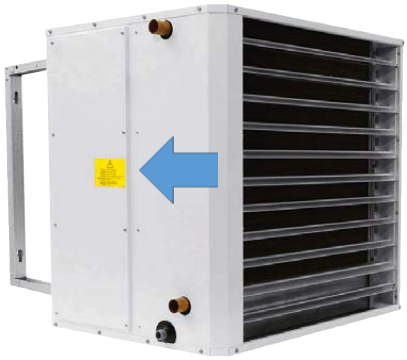
Cleaning/maintenance

Before starting maintenance/cleaning, the fan cooler must be cut from power. Maintenance/ cleaning must be carried out by a maintenance company or a qualified person.
Attention! The air distribution plate must always be installed in the internal element, as the capacity decreases otherwise, and there is a great risk in the absence of the plate that condensate enters the element with the air.

The coil of the fan cooler has a 4 mm fin spacing, which minimises maintenance. However, it must be cleaned if dust or dirt has accumulated on the fan, the air distribution plates or the coil. Otherwise the efficiency will be impaired. The intervals between cleaning depend on the environment in which the fan cooler is used.

1. To clean, open the flap. See Fig. M.
2. Pull the air distribution plate towards the hatch opening and unhook it; see Fig. N.
3. Move the air distribution plate towards the fan motor; see blue arrow in Fig. O. Release the lower part of the plate and turn it in the direction of the red arrow so that it detaches from the lower holder.
4. Hold the air distribution plate at an angle and take it out; see Fig. P. **Make sure that the coil is not damaged!**
5. Clean the fan grille, fan motor, fan motor air vents, and coil with a soft brush and a vacuum cleaner. Then clean the drain plate (Fig. Q). Make sure that the condensate drain (green arrow) is free from contamination.
6. To clean the air conditioner with cleaning spray, first remove the air deflector or turn the air deflector blade all the way up; see Fig. R.

M



N

O

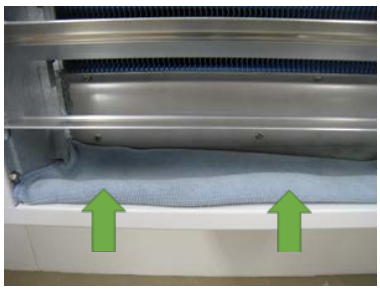
P

Q

R

7. Place liquid-absorbing paper or the like on the bottom plate, which absorbs the cleaning spray and rinsing liquid; see Fig. S.
8. Proceed accordingly on the inside; see Fig. T.
9. Apply cleaning spray to the entire coil; see Fig. U. Follow the instructions on the spray bottle. Protect the fan motor from cleaning spray and spray fluid.
10. After cleaning, reinstall the air distribution plate and cleaning hatch. Make sure that the air distribution plate is correctly installed and held in the correct position by the springs.

S



T

U

Packaging

Packaging materials are chosen with consideration to the environment and are therefore recyclable.

Handling of product at end of working life

This product may contain substances necessary for the functionality of the product but potentially dangerous for the environment. The product should not be disposed of mixed with general household waste but delivered to a designated collection point for environmental recycling. Please contact the local authority for further details of your nearest designated collection point.

Safety

- *Ensure that the area around the intake is kept free from material which could prevent the air flow through the appliance.*
- *Lifting aids should be used to lift the appliance.*
- *When adjusting the louvers, please note that the water heating coil may have sharp edges.*
- *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.*
- *Children of less than 3 years should be kept away unless continuously supervised.*
- *Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.*
- *Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance.*

CAUTION — Some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.

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For latest updated information and information about your local contact: www.frico.net

2024-02-23, HH/CH/AK