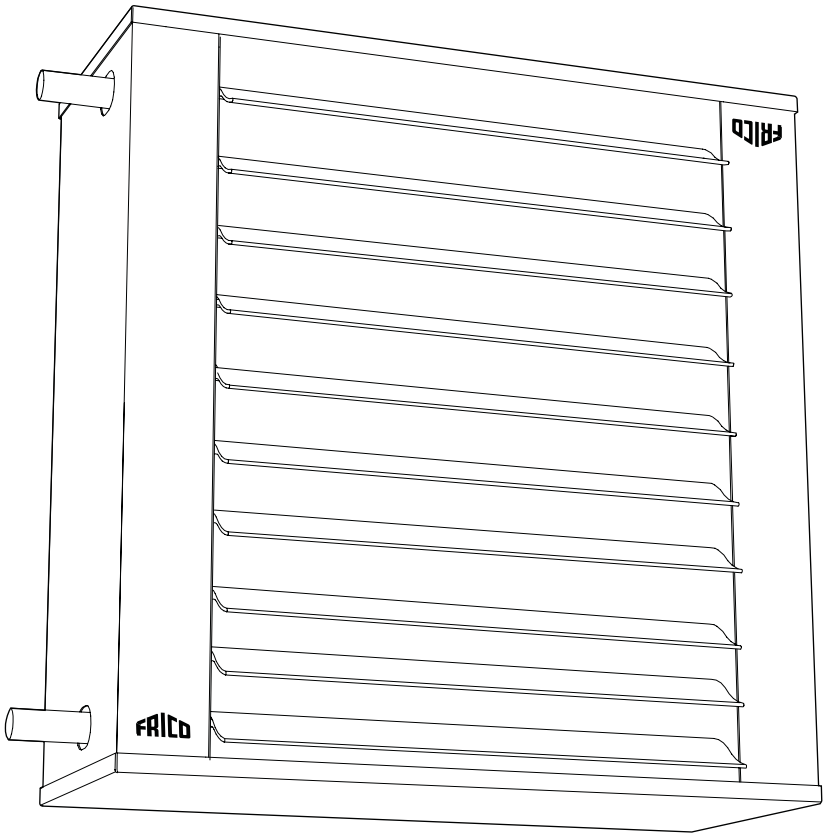
Original instructions

SWL



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.

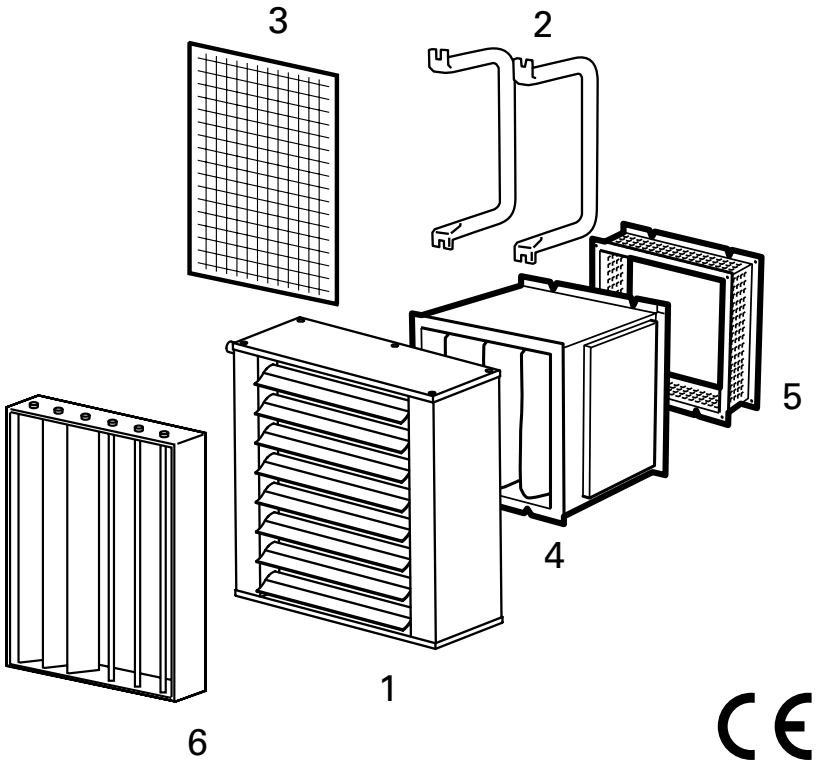
RU Страницы в начале Инструкции состоят в основном из рисунков, схем и таблиц. Перевод встречающегося там текста приведен в разделе RU.

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

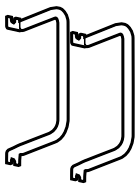
DK Introduktionssiderne består hovedsageligt af billeder. For oversættelse af de engelske tekster, se siderne for de respektive sprog.

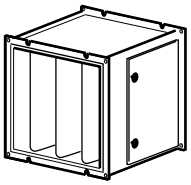
Fan heater SWL

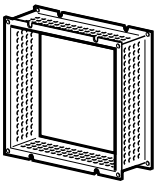
1. Fan heater SWL
2. Mounting brackets SWB
3. Basic filter SWSFT
4. Filter section, deep-pleated bagfilter EU3 SWF
5. Return air intake SWD
6. Extra air director SWLR

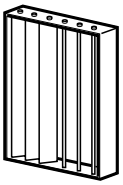


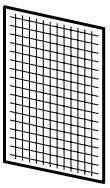
Accessories


SWB


SWF


SWD

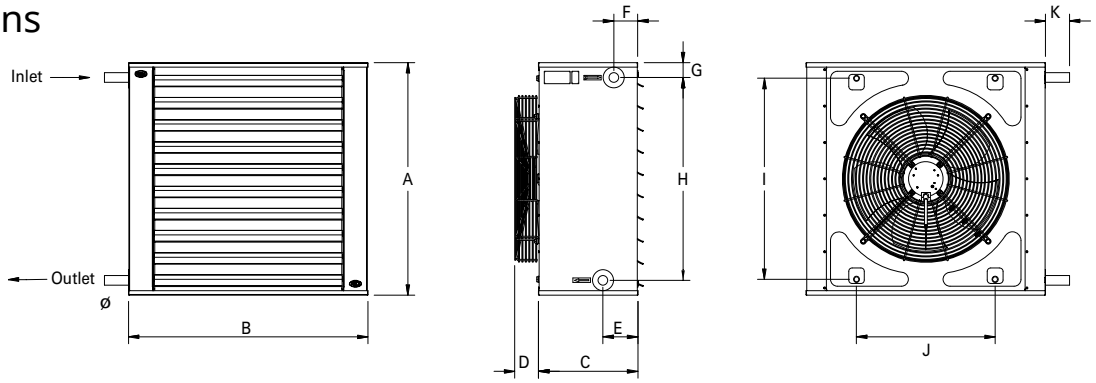

SWLR


SWSFT

Item number	Type	Description
17577	**SWB0**	Mounting brackets SWL02
17578	**SWB1**	Mounting brackets SWL12
17579	**SWB2**	Mounting brackets SWL22
17580	**SWB3**	Mounting brackets SWL32/SWL33
10113	**SWF1**	Filter section SWL12
10115	**SWF2**	Filter section SWL22
10117	**SWF3**	Filter section SWL32/SWL33
10099	**SWD1**	Return air intake SWL12
10102	**SWD2**	Return air intake SWL22
10103	**SWD3**	Return air intake SWL32/SWL33

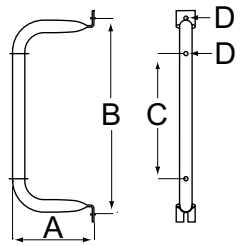
Item number	Type	Description
10108	**SWEF1**	Extra filter cassette EU3 SWL12
10110	**SWEF2**	Extra filter cassette EU3 SWL22
10111	**SWEF3**	Extra filter cassette EU3 SWL32/SWL33
10132	**SWLR1**	Extra air director SWL12
10133	**SWLR2**	Extra air director SWL22
10134	**SWLR3**	Extra air director SWL32/33
27661	**SWSFT02**	Basic filter SWL02
27658	**SWSFT1**	Basic filter SWL12
27659	**SWSFT2**	Basic filter SWL22
27660	**SWSFT3**	Basic filter SWL32/SWL33

Dimensions



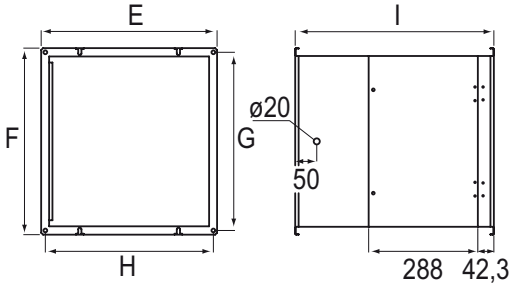
	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]	Ø [mm]
SWL02	470	518	268	40	95	70	40	390	405	260	70	22
SWL12	545	538	274	70	95	70	40	465	470	260	70	22
SWL22	671	691	287	70	100	70	43	585	580	400	70	28
SWL32/33	798	828	415	155	100	70	44	710	700	530	70	28

Mounting brackets SWB



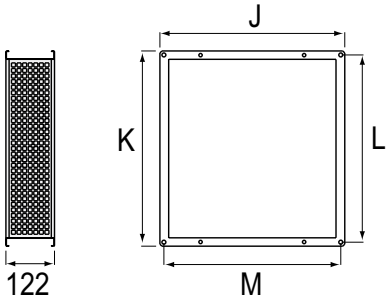
	A [mm]	B [mm]	C [mm]	D [mm]
SWB0	195	405	235	10
SWB1	195	470	300	10
SWB2	250	580	410	10
SWB3	335	700	530	10

Filter section SWF



	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]
SWF1	466	492	470	444	524
SWF2	616	602	580	594	524
SWF3	746	722	700	724	524

Return air intake SWD



	J [mm]	K [mm]	L [mm]	M [mm]
SWD1	466	492	470	444
SWD2	616	602	580	594
SWD3	746	722	700	724

Controls

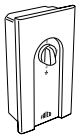

FCR230AC


ECG1


TKS16


KRT1900


KRTV19

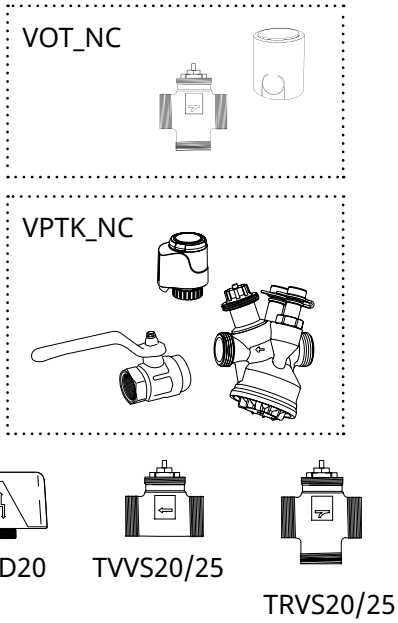

CB20


RE1,5/RE3/RE7

Item number	Type	Description	HxWxD [mm]
398206	**FCR230AC***	Room regulator with modbus communication	120x102x29
11929	**ECG1**	Room sensor used in conjuction with FC230AC	86x86x30
11651	**TKS16**	Electronic thermostat with knob and 1-pole main switch	80x80x31
5999	**KRT1900**	Capillary tube thermostat	165x57x60
10214	**KRTV19**	Capillary tube thermostat with knob	165x57x60
10737	**CB20**	2-step change-over switch for air flow, max 10A	155x87x43
5000	**RE1,5**	5-step change-over switch for air flow, max. 1,5A	200x105x105
5001	**RE3**	5-step change-over switch for air flow, max. 3A	200x105x105
5003	**RE7**	5-step change-over switch for air flow, max. 7A	247x147x145

*Used with VPTK_NC, VOT_NC

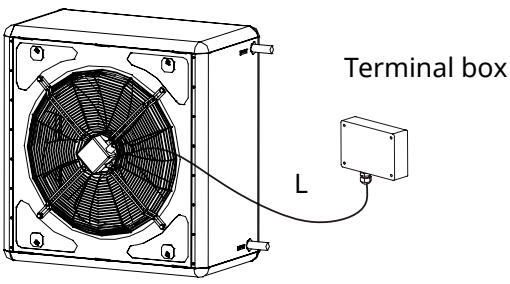
Water regulation



Item number	Type	Description
457399	**VOT15NC***	Valve kit, DN15
457400	**VOT20NC***	Valve kit, DN20
457401	**VOT25NC***	Valve kit, DN25
456586	**VPTK15NFNC***	Valve kit, DN15
456587	**VPTK15LFNC***	Valve kit, DN15
398214	**VPTK20NC***	Valve kit, DN20
398215	**VPTK25NC***	Valve kit, DN25
454159	**VPTK32NC***	Valve kit, DN32
10073	**SD20**	Actuator on/off 230V~
24729	**TVVS20**	2-way control valve
24730	**TVVS25**	2-way control valve
19019	**TRVS20**	3-way control valve
19020	**TRVS25**	3-way control valve

*Used with FCR230

Electrical installation

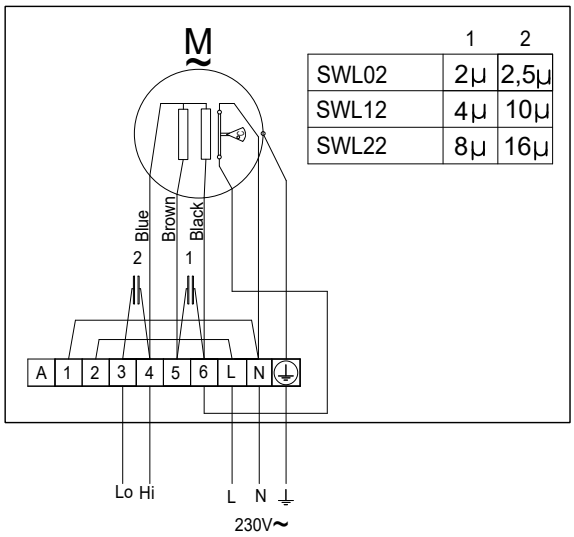


Item number	Type	Cable length L [mm]
36911	**SWL02**	700
39612	**SWL12**	700
39613	**SWL22**	700
39614/39615	**SWL32/33**	1000

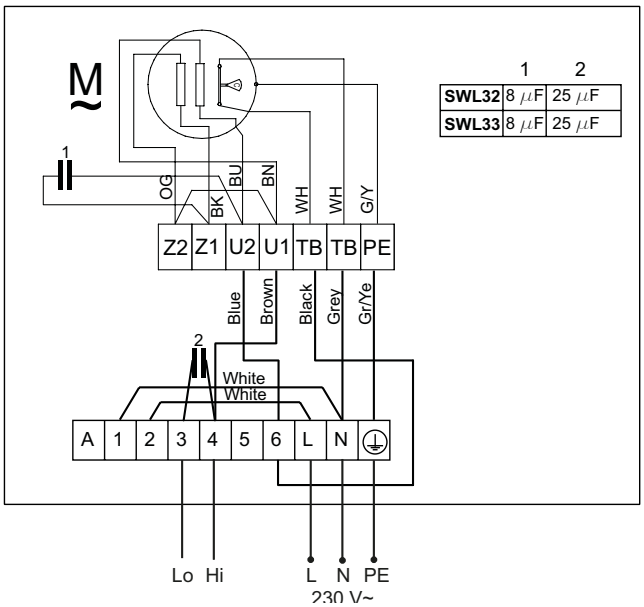
Wiring diagrams

Internal wiring diagram

SWL02-22



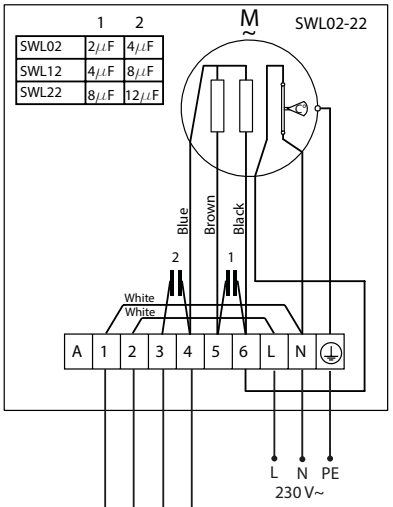
SWL32 #466552
SWL33 #466553

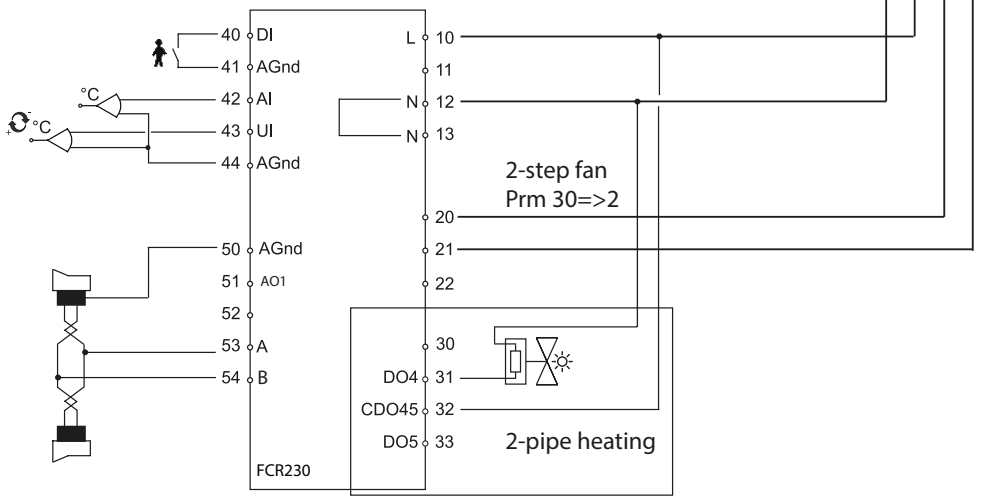


Communication via Modbus, BACnet or EXOline

FCR230AC

SWL02-22

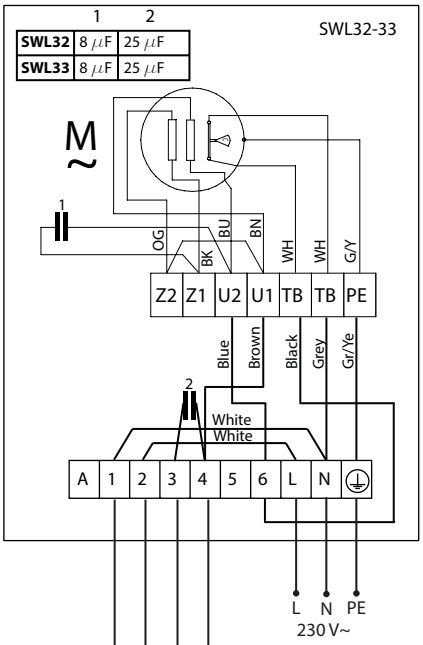


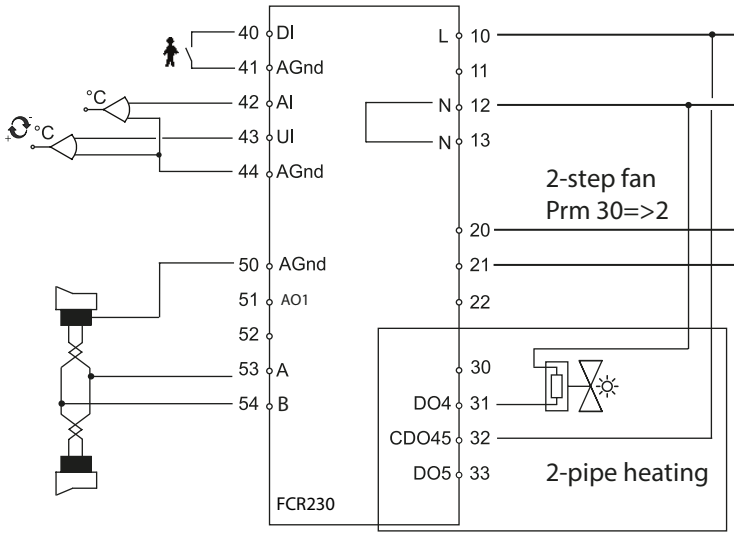


Communication via Modbus,
BACnet or EXOline

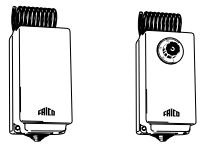
FCR230AC

SWL32 #466552
SWL33 #466553

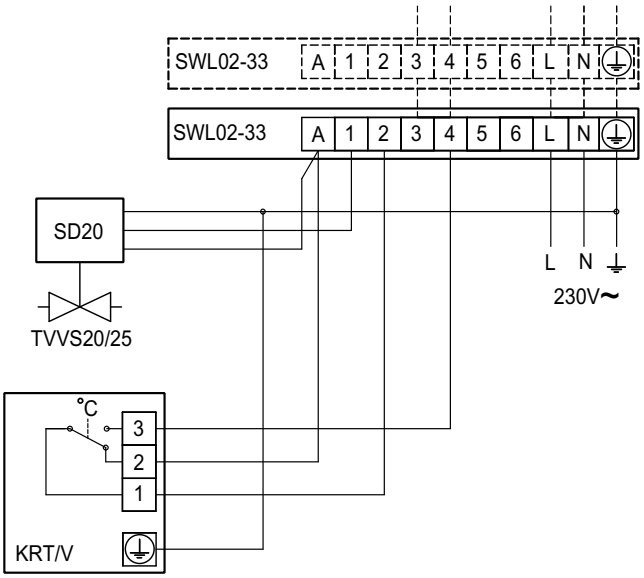


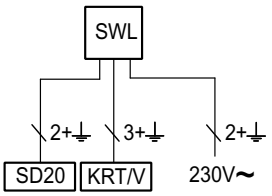


Control by thermostat only

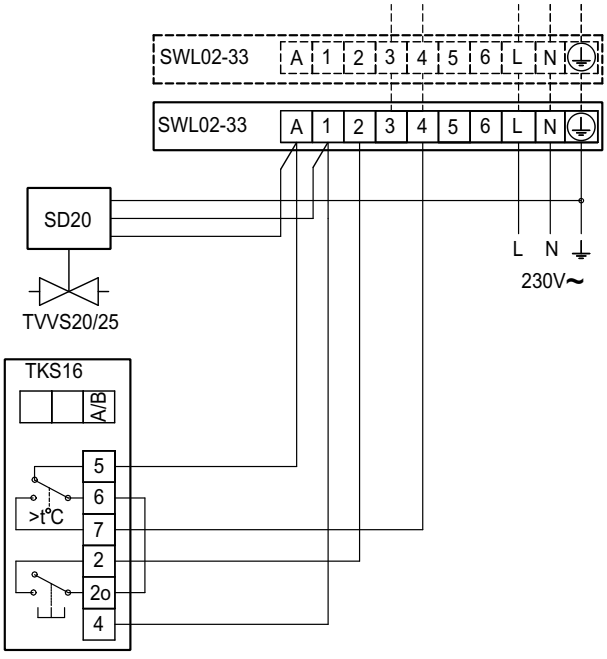


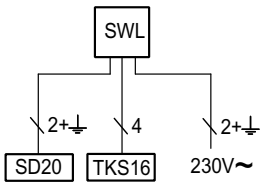
KRT1900/KRTV19





TKS16



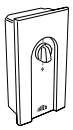


Wiring diagrams

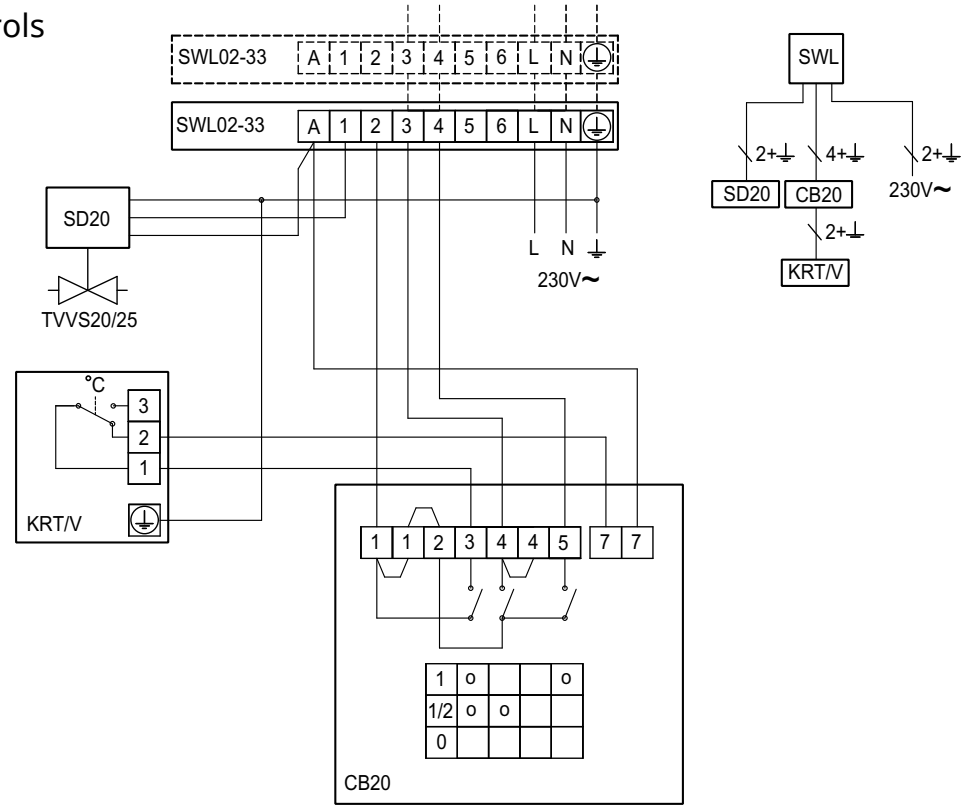
Thermostat and 2-step control

The thermostat controls only heat

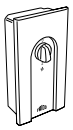
KRT1900/KRTV19



CB20



TKS16



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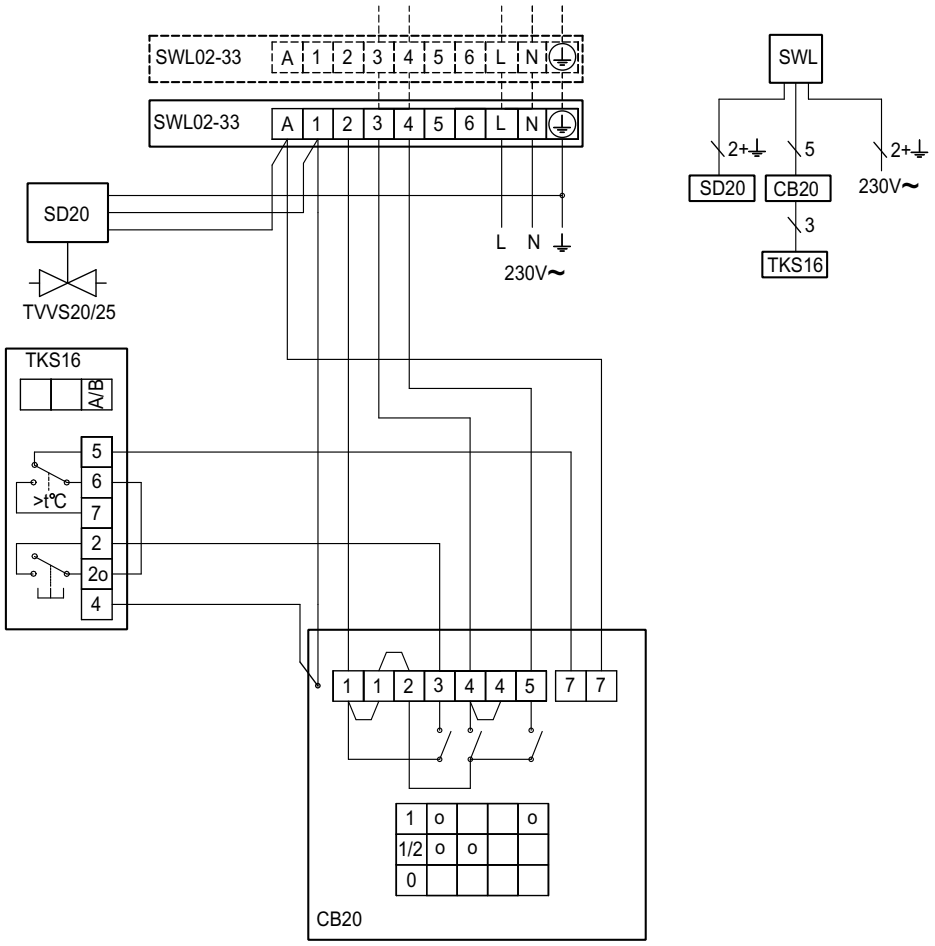
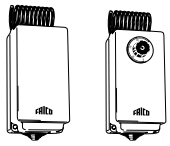


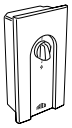
Wiring diagrams

Thermostat and 2-step control

The thermostat controls heat and fan



KRT1900/KRTV19



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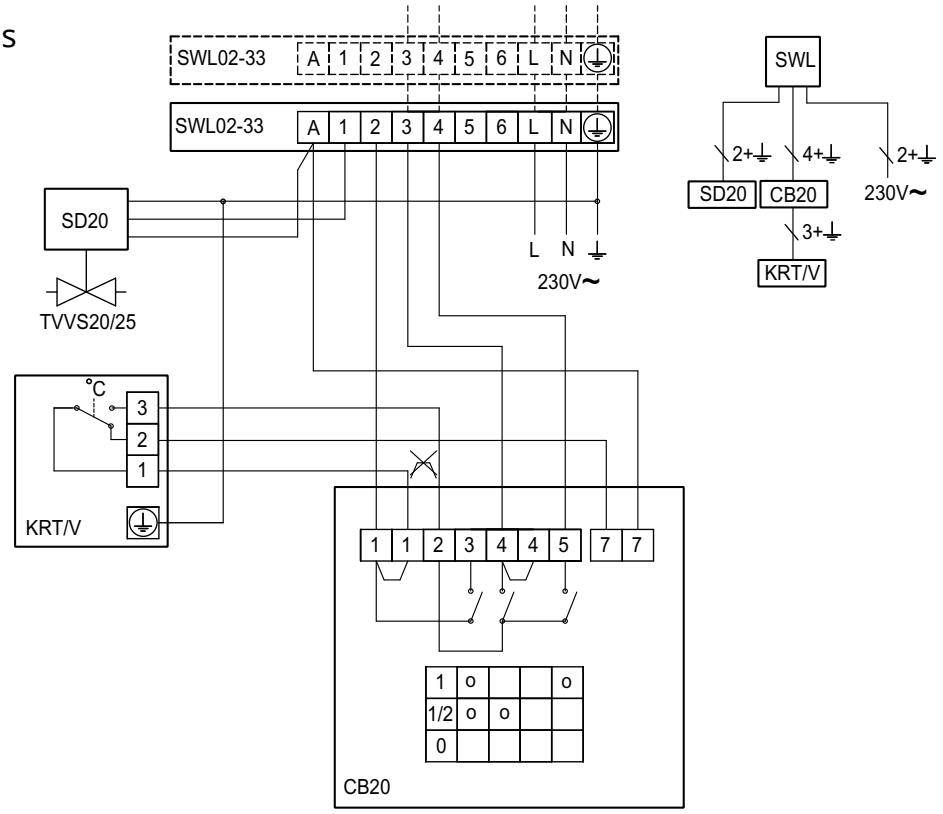

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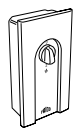

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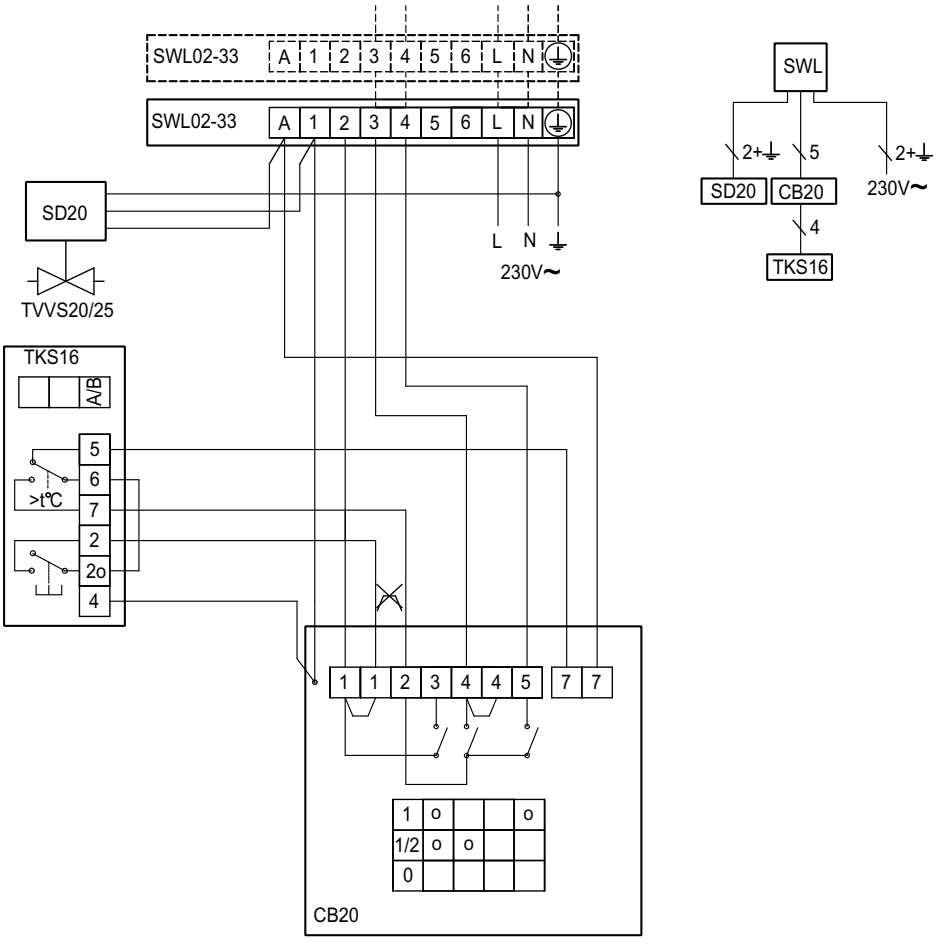
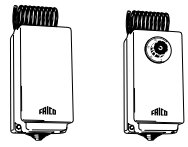


Wiring diagrams

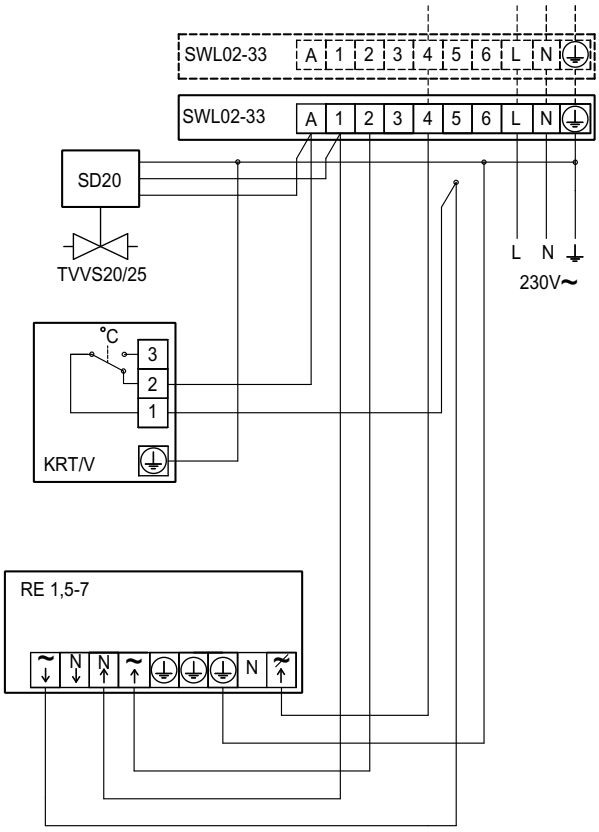
Thermostat and 5-step control

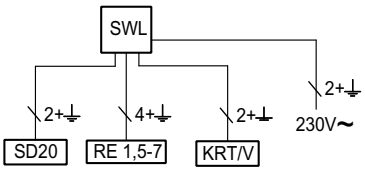
The thermostat controls only heat



KRT1900/KRTV19

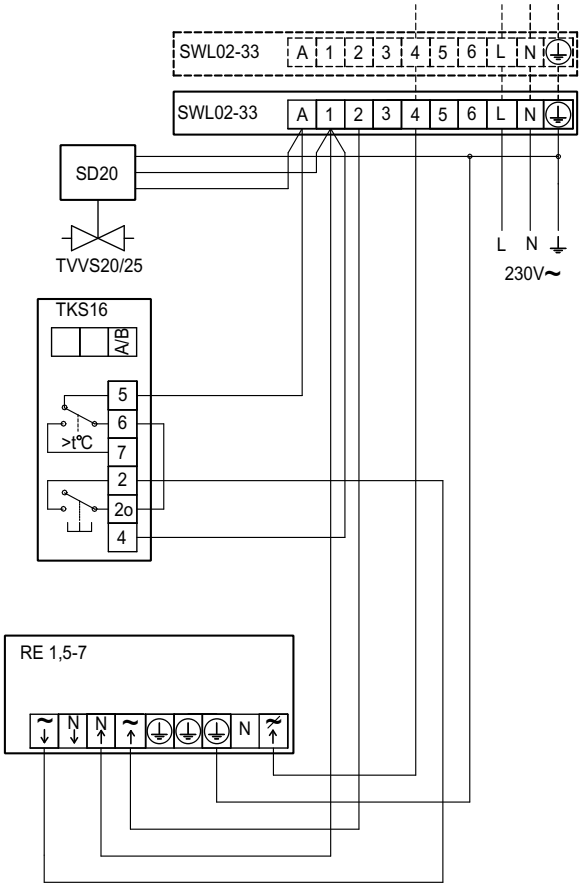
RE1,5-7

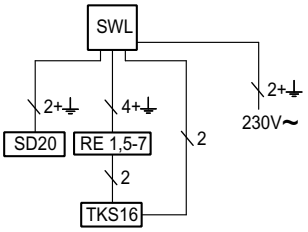




TKS16

RE1,5-7





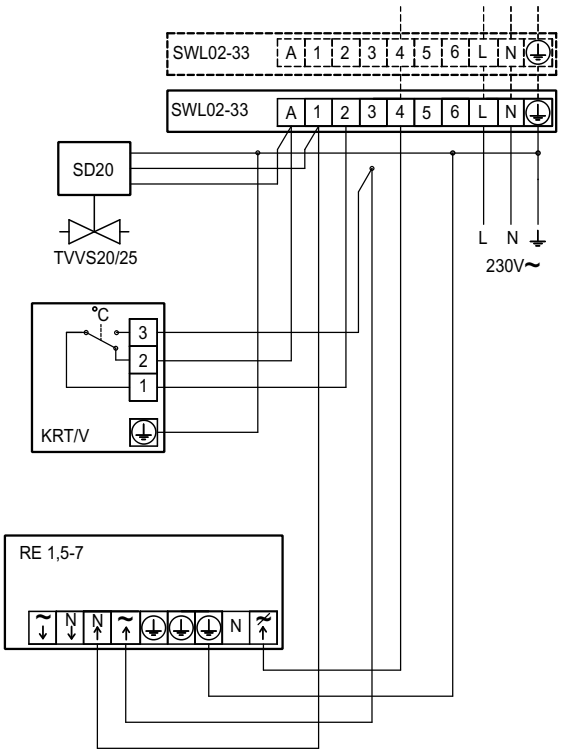
Wiring diagrams

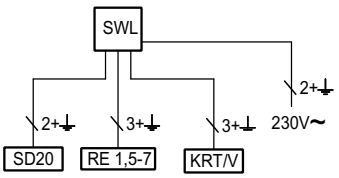
Thermostat and 5-step control

The thermostat controls heat and fan

KRT1900/KRTV19

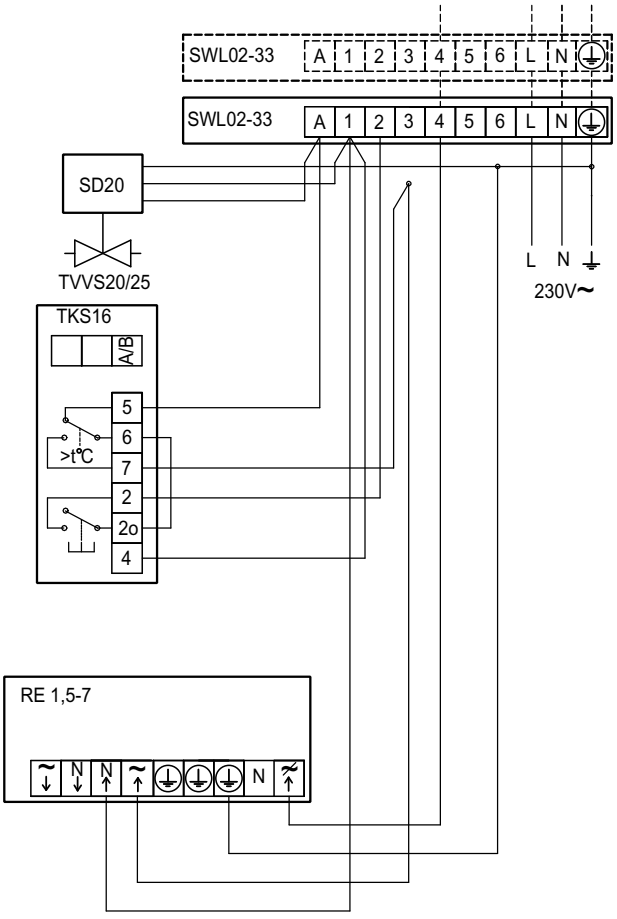
RE1,5-7

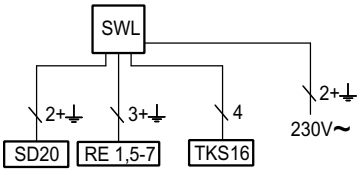




TKS16

RE1,5-7





Technical specifications

Fan heater SWL (IP44)

Item number	Type	Heat output*[1] [kW]	Air flow [m³/h]	Air flow [m³/s]	Sound power*[2] [dB(A)]	Sound pressure*[3] [dB(A)]
39611	**SWL02**	12	650/1120	0,18/0,31	59	30/43
39612	**SWL12**	19	1450/2450	0,40/0,68	70	41/54
39613	**SWL22**	31	2200/3950	0,61/1,10	75	46/59
466552	**SWL32**	50	3500/5820	1,18/1,79	73	46/57
466553	**SWL33**	64	3060/5340	1,02/1,63	74	45/58

Fan heater SWL (IP44)

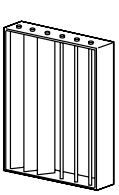
Item number	Type	Δt*[1,4] [°C]	Water volume*[5] [l]	Voltage [V]	Amperage [A]	Weight [kg]
39611	**SWL02**	36/30	1,3	230V~	0,4	16
39612	**SWL12**	27/22	1,5	230V~	0,8	20
39613	**SWL22**	29/23	2,7	230V~	1,2	30
466552	**SWL32**	24/18	3,8	230V~	1,65	50
466553	**SWL33**	37/33	5,2	230V~	1,68	53

*[1]) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.
*[2]) Sound power (L_{WA}) measurements according to ISO 27327-2: 2014, Installation type E.
*[3]) Sound pressure (L_{pA}). Conditions: Distance to the unit 5 metres. Directional factor: 2. Equivalent absorption area: 200 m². At lowest/highest airflow.
*[4]) Δt = temperature rise of passing air at maximum heat output and lowest/highest airflow.
*[5]) Water volume inside water coil.

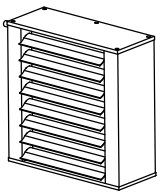
Approved for 220V/1ph/60Hz. Product performance for 220V/1ph/60Hz will differ from stated data.

Air throw

Item number	Type	Air throw [m]	Air throw with extra air director [m]
39611	**SWL02**	8	-
39612	**SWL12**	12	16
39613	**SWL22**	18	23
39614	**SWL32**	24	31
39615	**SWL33**	22	29



Extra air director



SWL

The air throw data above is valid when the horizontally adjustable air director is used and at highest air flow and room temperature +18 °C. The air throw is defined as the distance in a straight angle from the fan heater to the point where the average air speed has dropped to 0,5 m/s.

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 area

SWL is a fan heater with low sound level intended for water heating. SWL is suitable for industrial premises where fan heaters are traditionally used, but also in environments such as shops and assembly halls. The fan heater can be mounted on the wall or the ceiling.
Protection class: IP44.

The unit consists of the following:

Corrosion-proof, hot rolled galvanized and powder coated casing. Colour code: RAL9016, NCS 0500. Top/bottom lids open, for maintenance.

Fully enclosed single-phase 230V, 50Hz, intergrated motor with an axial fan. Protection class IP44. Maximum surrounding temperature: +40 °C.

Heating coil with aluminium fins (fin distance 2 mm) and copper tubes. Smooth pipe connections for soldering or clamping ring coupling. In standard designs, SWL is intended for hot water up +150 °C and 10 bar.

All models are delivered with individually adjustable louvres for controlling the air current in one direction. Louvres of anodized aluminium.

Mounting

The unit is delivered with casing, fan, heating coil and air director as standard. Mounting brackets are orded separately.
Can be mounted on the wall for horisontal air distribution or on the ceiling for vertical air distribution. By turning the fan heater, pipe connections are possible on both sides.

Mounting without accessories
Measure and mark the drilling holes on the wall or on the celing. Use a suitable screwing device to fit the brackets. Use the included set of screws to fit the brackets on to the unit.

Mounting with filter section SWF
When the filter section is used with the unit and mounted on to the wall, use the return air intake SWD. The return air intake is mounted together with the SWL unit with screws or guides. The return air intake is mounted on to the wall with a suitable screwing device.
Check the connections between the units, in case of air leakage use a suitable strip seal. All casings of the accessories are laquered on delivery.

Mounting of the basic filter SWSFT
The unit can be provided with a basic filter to protect the heating coil (not included on delivery). The top/bottom lid is opened, and the filter is slid down behind the coil in tracks for this purpose. The filter can be reached for installation and cleaning/maintenance from both top or bottom of the unit.

SWL with the extra air director SWLR
The extra air director is mounted to the unit by hooking it onto the existing air director.

Ceiling mounting
The unit and the filter section are mounted onto each other on the floor and lifted up as one unit to be mounted on the ceiling. The units should be mounted together with screws or guides.

Connection of heating coil

The installation should be carried out by a certified installer. By turning the fan heater, pipe connections are possible on both sides. Heating coil with copper pipes. Smooth pipe connections for soldering or compression fittings. For correct inlet and outlet connection of the heating coil, see dimension sketch.
Note! Be careful while connecting the pipes to prevent pipe damage and water leakage.
The heating coil must not be connected to a mains pressure water system or an open water system.
Prior to use, the pipe system should be ventilated. The air valve should be connected on a high point in the pipe system. Air and draining valves are not included in the heating coil.

Electrical installation

The electrical installation should be carried out by a qualified electrician in conformity with prevailing regulations. The appliance should be preceded by an triple-pole switch with at least 3 mm breaking gap.
The fan motor is connected to a detached terminal box, which is mounted on a wall next to the unit.

When a filter section is used, holes must be made in the casing for connection cables. The motor has a built-in thermal safety cut-out to protect against overheating. This will reset automatically once the motor has cooled. Cable-glands used must guarantee the protection class requirements.

After the electrical installation of the motor, check the rotation of the fan. Seen from the inlet side, the impellers should be rotating anti-clockwise.

Low or high speed can be selected with or without control, see wiring diagrams.

Maintenance

To ensure performance and reliabilty of the unit, inspection and cleaning should be carried out reguarly. Inspection should be carried out at least twice a year. Clean the unit when needed. During inspection the power supply must always be disconnected.

Cleaning the fan

Cleaning intervals of the fan depends on filter (if any) and air quality. When a filter section with a deep-pleated bag filter is used and the indoor air is of normal quality, the unit is generally cleaned once a year. If the impellers are not cleaned properly, vibrations/noise can occur and severly damage the bearings. If the vibration/noise remains after cleaning, please contact a certified technician.

The unit, the filter section and the heating coil can be vacuumed from dust.

When there are no accessories on the inlet side, inspection of the fan can be made from the outside of the unit. When the filter section is used, inspection can be carried out by the inspection door on the side of the filter section.

Filter

If used, the basic filter should be cleaned when necessary and checked at least 4 times a year. To clean the filter, open top or bottom lid by loosening a pair of screws underneath the lid and vaccum.
The filter in the filter section is a deep-pleated bag filter, type EU3 (G85). It should be replaced when the recommended pressure drop is increasing 75 Pa. Check the pressure drop at least 4 times a year.
Pressure drop for deep-pleated bagfilter replacement: 75 Pa.

Replacement filter of 20 mm frame width:

	WxHxD [mm]	Number of bags
SWEF1	420x446x350	4
SWEF2	552x558x400	4
SWEF3	630x680x450	5

Heating coil

Inspect the coil for water leakage and corrosion. Dust on the surface of the heating coil can be vaccumed.

Motor

The motor is normaly maintenanance-free. If noise or vibrations should occur, inspect the bearing and replace it if necessary. Replacement should be carried out by a certified technician.

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. Recycling of used products saves earth's resources and reduces global footprint.

Safety

- *Keep the areas around the air intake and exhaust grilles free from possible obstructions!*
- *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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