

## Fan heater SWX C / D / H

Fan heater for harsh environments, water connection

### Application

SWX is a range of fan heaters suitable for environments with strict demands on materials and safety. Models are available for use in dusty or corrosive environments and in rooms with high temperatures.

### Comfort

Frico's fan heaters provide comfortable heat quickly. The SWX fan heater makes it possible to bring comfort to environments with special requirements.

### Operation and economy

Frico's fan heaters have a long life and providing fast and effective heating at a low cost. Smart design facilitates maintenance and makes installation easy.

### Design

Fan heater SWX has a robust design, adapted to the requirements of harsh environments. Supplied with air director with individually adjustable louvres that direct the air flow on one plane. The front of SWX C and SWX D can be opened for easy cleaning. SWX H has an inspection hatch with quick release.

### Product specifications

- Fan heater SWX is available in following versions:
  - **SWX C** is intended for corrosive and damp environments, e.g. offshore and chemical industries. Casing, air deflector grille and bracket made of acid-proof stainless steel (EN 1.4404). Water coil with acid proof stainless steel pipe. Aluminium fins with nano-coating. Corrosion class C5-M.
  - **SWX D** has been specially introduced for dusty environments, such as industrial and joinery premises. Casing air deflector grille and bracket made of acid proof stainless steel (EN 1.4404). Water coil with copper pipe. Aluminium fins with a fin gap of 4.2 mm, to minimize the risk of dust and particles blocking the coil.
  - **SWX H** is intended for rooms with high temperatures, up to 70 °C, such as in the drying and curing industry as well for decontamination. Casing in stainless steel (EN 1.4016). Water coil with copper pipe. Fins made of hydrophilic coated aluminium for easier cleaning and improved durability.
- High protection class, IP65.
- SWX C/D is supplied with brackets for wall or ceiling mounting. A wall bracket is included for SWX H.

SWX is also available in a version for environments with a temporary explosion risk, see separate chapter for SWX EX.

## Technical specifications

Fan heater SWX C, for corrosive and damp environments. (IP65)

Type	Heat output* <sup>1</sup> [kW]	Air flow [m <sup>3</sup> /h]	Air flow [m <sup>3</sup> /s]	Sound level* <sup>2</sup> [dB(A)]	$\Delta t$ * <sup>1,3</sup> [°C]	Air throw [m]	Water volume* <sup>4</sup> [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
<b>SWXC12</b>	20	2160	0,6	59	27	7	1,5	230V~	0,5	535x585x455	32
<b>SWXC22</b>	37	4300	1,2	69	25	10	2,4	230V~	1,35	660x740x455	54

\*<sup>1</sup>) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.\*<sup>2</sup>) Conditions: Distance to the unit 5 metres.\*<sup>3</sup>)  $\Delta t$  = temperature rise of passing air at maximum heat output.\*<sup>4</sup>) Water volume inside water coil.

Fan heater SWX D, for dusty environments. (IP65)

Type	Heat output* <sup>1</sup> [kW]	Air flow [m <sup>3</sup> /h]	Air flow [m <sup>3</sup> /s]	Sound level* <sup>2</sup> [dB(A)]	$\Delta t$ * <sup>1,3</sup> [°C]	Air throw [m]	Water volume* <sup>4</sup> [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
<b>SWXD13</b>	15	2200	0,6	59	20	7	2,2	230V~	0,5	535x585x455	32
<b>SWXD23</b>	29	4430	1,2	69	19	10	3,8	230V~	1,35	660x740x455	54

\*<sup>1</sup>) Applicable at water temperature 80/60 °C, air temperature, in +15 °C.\*<sup>2</sup>) Conditions: Distance to the unit 5 metres.\*<sup>3</sup>)  $\Delta t$  = temperature rise of passing air at maximum heat output.\*<sup>4</sup>) Water volume inside water coil.

Fan heater SWX H, for rooms with high temperatures. (IP65)

Type	Heat output* <sup>1</sup> [kW]	Air flow [m <sup>3</sup> /h]	Air flow [m <sup>3</sup> /s]	Sound level* <sup>2</sup> [dB(A)]	$\Delta t$ * <sup>1,3</sup> [°C]	Air throw [m]	Water volume* <sup>4</sup> [m]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
<b>SWXH13</b>	12	1830	0,5	57	21	6	2,2	230V~	0,5	530x550x380	28
<b>SWXH23</b>	23	3870	1,1	68	20	9	3,8	230V~	1,35	655x705x430	46

\*<sup>1</sup>) Applicable at water temperature 80/60 °C, air temperature, in +40 °C.\*<sup>2</sup>) Conditions: Distance to the unit 5 metres.\*<sup>3</sup>)  $\Delta t$  = temperature rise of passing air at maximum heat output.\*<sup>4</sup>) Water volume inside water coil.

Intended for water temperatures up to +150 °C and 16 bar.  
Max. surrounding temperature +70 °C.

SWX C complies with the requirements for corrosion class C5-M.

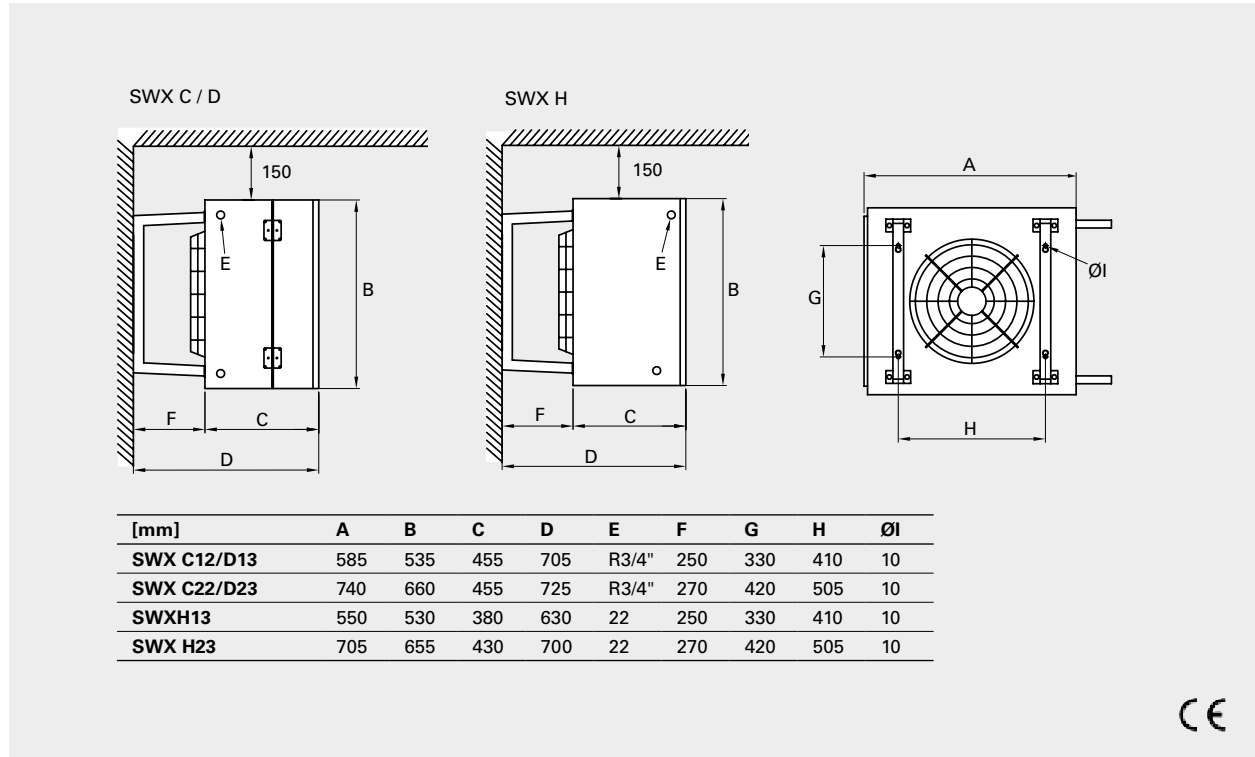
Protection class: IP65.

Approved by SEMKO.

CE compliant.

# Fan heater SWX C / D / H

## Dimensions



## Mounting and connection

### Mounting

#### SWX C / D

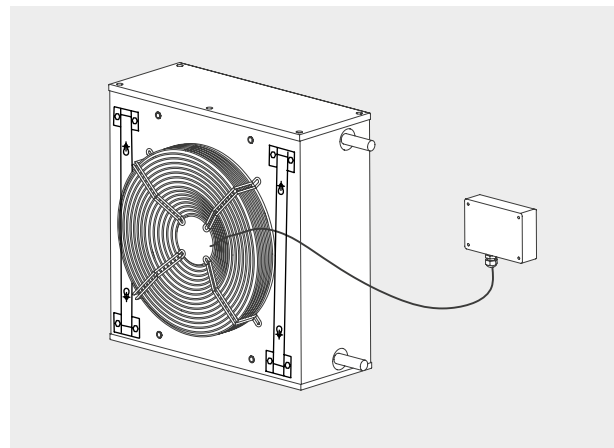
The fan heaters can be permanently mounted on a wall for horizontal air distribution, or on the ceiling for vertical air distribution. Delivered with brackets for wall or ceiling mounting. For minimum distance, see dimension diagrams.

#### SWX H

The fan heaters are mounted on the wall. Wall bracket included. For minimum distance, see dimension diagrams.

### Connection

The fan motor is connected to a detached terminal box, which is mounted on a wall next to the unit (0,85 m cable).



### Connection of heating coil

By turning the fan heater, pipe connections are possible on both sides. Units that are likely to be exposed to air temperatures below zero, for example when a mixing cabinet is used, should be equipped with external frost protection to ensure that the heating coil is not damaged by frost.

## Control options

### SWX C / H

#### Control by thermostat only

The thermostat starts/stops the fan and also controls the heat supply on/off. The fan is set to run on high speed.

Complete regulation kit:

- SWXRT35, room thermostat (SWX C)  
SWXRT70, room thermostat (SWX H)
- TVV20/25, 2-way valve + SD20, actuator

#### 5-step control of airflow only

The air flow is manually regulated in 5 steps. No heat regulation, maximum water flow through the heating coil.

Complete regulation kit:

- RE1,5, 5-step regulator max 1,5A, or  
RE3, 5-step regulator max 3A, or  
RE7, 5-step regulator max 7A

#### Thermostat and 5-step control

The thermostat starts/stops the fan and also controls the heat supply on/off. The air flow is manually regulated in 5 steps.

Complete regulation kit:

- RE1,5, 5-step regulator max 1,5A, or  
RE3, 5-step regulator max 3A, or  
RE7, 5-step regulator max 7A
- SWXRT35, room thermostat (SWX C)  
SWXRT70, room thermostat (SWX H)
- TVV20/25, 2-way valve + SD20, actuator

Note! SWXRT35 can be mounted in corrosive environments, other controls must not be located in corrosive environments.

SWXRT70 can be mounted in environments with temperatures above 50°C.

### SWX D

#### Control by thermostat only

The thermostat starts/stops the fan and also controls the heat supply on/off. The fan is set to run on high speed.

Complete regulation kit:

- KRT1900, room thermostat
- TVVS20/25, 2-way valve + SD20, actuator

#### 5-step control of airflow only

The air flow is manually regulated in 5 steps. No heat regulation, maximum water flow through the heating coil.

Complete regulation kit:

- RE1,5, 5-step regulator max 1,5A, or  
RE3, 5-step regulator max 3A, or  
RE7, 5-step regulator max 7A

#### Thermostat and 5-step control

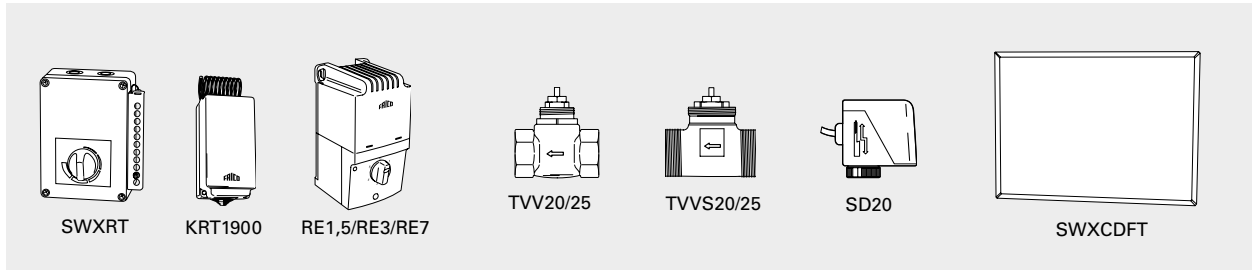
The thermostat starts/stops the fan and also controls the heat supply on/off. The air flow is manually regulated in 5 steps.

Complete regulation kit:

- RE1,5, 5-step regulator max 1,5A, or  
RE3, 5-step regulator max 3A, or  
RE7, 5-step regulator max 7A
- KRT1900, room thermostat
- TVVS20/25, 2-way valve + SD20, actuator

# Fan heater SWX C / D / H

## Controls and accessories



SWXRT, room thermostat  
Enclosed room thermostat with visible dial.  
**SWXRT35:** Setting range 0 – +35 °C.  
**SWXRT70:** Setting range 0 - +70 °C.  
Max. breaking current: 2.7 A. IP65.

KRT1900, capillary tube thermostat  
Capillary tube thermostat with concealed dial. Setting range 0 – +40 °C. Max. breaking current: 16/10 A (230/400 V). IP55.

RE1,5/RE3/RE7, 5-step change-over switch for air flow  
Controls the air flow in 5 steps. **RE1,5** controls maximum 1,5 A. **RE3** controls maximum 3 A. **RE7** controls maximum 7 A. To control the heat, a suitable thermostat and a valve + actuator are needed. IP54.

TVV(S)20/25, valves + SD20, actuator  
TVV(S)20/25, 2-way regulation valve and SD20, actuator on/off provides a basic form of water regulation, without the possibility of adjusting or shutting the water flow off, e.g. when making maintenance. A suitable thermostat is chosen to regulate TVV(S)20/25 and SD20. DN20/25.

SWXCDFT, wire mesh filter  
Mounted directly in the fan heater and provides the heating coil with basic protection. The filter is easily accessible for mounting and cleaning. The filter can be reused after cleaning.

Type	Description	HxWxD [mm]
<b>SWXRT35</b>	Room thermostat 0-35 °C, max. 2,7 A, IP65, SWX C	175x150x100
<b>SWXRT70</b>	Room thermostat 0-70 °C, max. 2,7 A, IP65, SWX H	175x150x100
<b>KRT1900*</b>	Capillary tube thermostat, IP55, SWC D	165x57x60
<b>RE1,5*</b>	5-step change-over switch for air flow 1,5 A, IP54	200x105x105
<b>RE3*</b>	5-step change-over switch for air flow 3 A, IP54	200x105x105
<b>RE7*</b>	5-step change-over switch for air flow 7 A, IP54	257x147x145
<b>TVV20/25*</b>	2-way valve DN20/25, SWX C/H	
<b>TVVS20/25*</b>	2-way valve DN20/25, SWX D	
<b>SD20*</b>	Actuator on/off 230V	
<b>SWXCDFT1</b>	Wire mesh filter for SWX C12/D13/H13	515x425x5
<b>SWXCDFT2</b>	Wire mesh filter for SWX C22/D23/H23	620x565x5

\*) Only for mounting outside corrosive and hot (above 50°C) zones.

## Output charts water

## SWX C

Supply water temperature / Return water temperature 90/70 °C

Type	Airflow [m³/h]	Air temperature in +5 °C				Air temperature in +15 °C			
		Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXC12	2160	28,9	44,5	0,36	16,5	24,6	48,4	0,30	12,2
SWXC22	4300	54,1	42,2	0,66	19,2	46,0	46,3	0,56	14,0

Supply water temperature / Return water temperature 80/60 °C

Type	Airflow [m³/h]	Air temperature in +5 °C				Air temperature in +15 °C			
		Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXC12	2160	24,3	38,2	0,30	12,2	20,0	42,1	0,24	8,2
SWXC22	4300	45,2	36,1	0,55	13,7	37,2	40,3	0,45	9,4

Supply water temperature / Return water temperature 60/40 °C

Type	Airflow [m³/h]	Air temperature in +5 °C				Air temperature in +15 °C			
		Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXC12	2160	14,9	25,4	0,18	4,9	10,7	29,5	0,13	2,7
SWXC22	4300	27,4	23,8	0,33	5,5	19,4	28,2	0,24	2,7

## SWX D

Supply water temperature / Return water temperature 90/70 °C

Type	Airflow [m³/h]	Air temperature in +5 °C				Air temperature in +15 °C			
		Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXD13	2200	21,8	32,8	0,27	4,7	18,4	39,4	0,23	6,3
SWXD23	4430	40,7	31,0	0,50	14,7	34,4	37,9	0,42	10,8

Supply water temperature / Return water temperature 80/60 °C

Type	Airflow [m³/h]	Air temperature in +5 °C				Air temperature in +15 °C			
		Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXD13	2200	18,7	28,8	0,23	6,5	15,3	35,4	0,19	4,6
SWXD23	4430	35,0	27,4	0,43	11,3	28,8	34,1	0,35	7,9

Supply water temperature / Return water temperature 60/40 °C

Type	Airflow [m³/h]	Air temperature in +5 °C				Air temperature in +15 °C			
		Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXD13	2200	12,4	20,8	0,15	3,2	9,1	27,1	0,11	1,8
SWXD23	4430	23,3	19,9	0,28	5,6	17,3	26,5	0,21	3,3

# Fan heater SWX C / D / H

## Output charts water

### SWX H

		Supply water temperature / Return water temperature 90/70 °C											
		Air temperature in +20 °C				Air temperature in +40 °C				Air temperature in +60 °C			
Type	Airflow [m³/h]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXH13	1830	26,6	63,6	0,33	8,3	16,3	69,4	0,20	3,4	6,6	73,5	0,09	0,6
SWXH23	3870	52,4	60,7	0,65	10,6	32,1	67,3	0,40	4,3	12,9	72,5	0,16	0,8

		Supply water temperature / Return water temperature 80/60 °C								Supply water temperature / Return water temperature 80/65 °C			
		Air temperature in +20 °C				Air temperature in +40 °C				Air temperature in +60 °C			
Type	Airflow [m³/h]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXH13	1830	21,8	55,9	0,27	5,9	11,8	61,2	0,14	1,9	3,6	67,3	0,06	0,14
SWXH23	3870	43,0	53,4	0,53	7,5	23,1	59,6	0,28	2,4	7,1	66,0	0,12	0,5

		Supply water temperature / Return water temperature 98/85 °C											
		Air temperature in +20 °C				Air temperature in +40 °C				Air temperature in +60 °C			
Type	Airflow [m³/h]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]	Output [kW]	Air temp. out [°C]	Water flow [l/s]	Pressure drop [kPa]
SWXH13	1830	32,1	72,7	0,61	26,5	21,6	78,9	0,41	12,6	11,9	84,4	0,33	4,2
SWXH23	3870	63,6	69,4	1,21	34	42,8	76,4	0,82	16,2	23,6	82,8	0,45	5,3



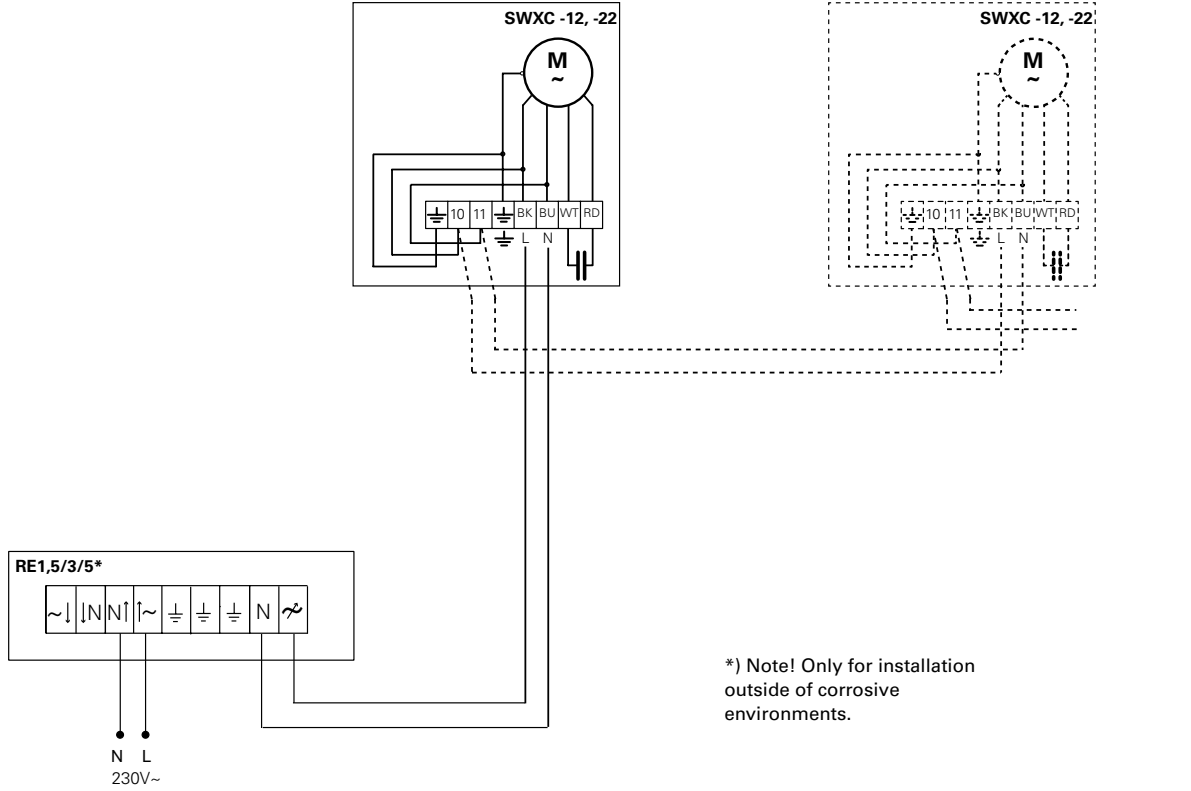


# Fan heater SWX C / D / H

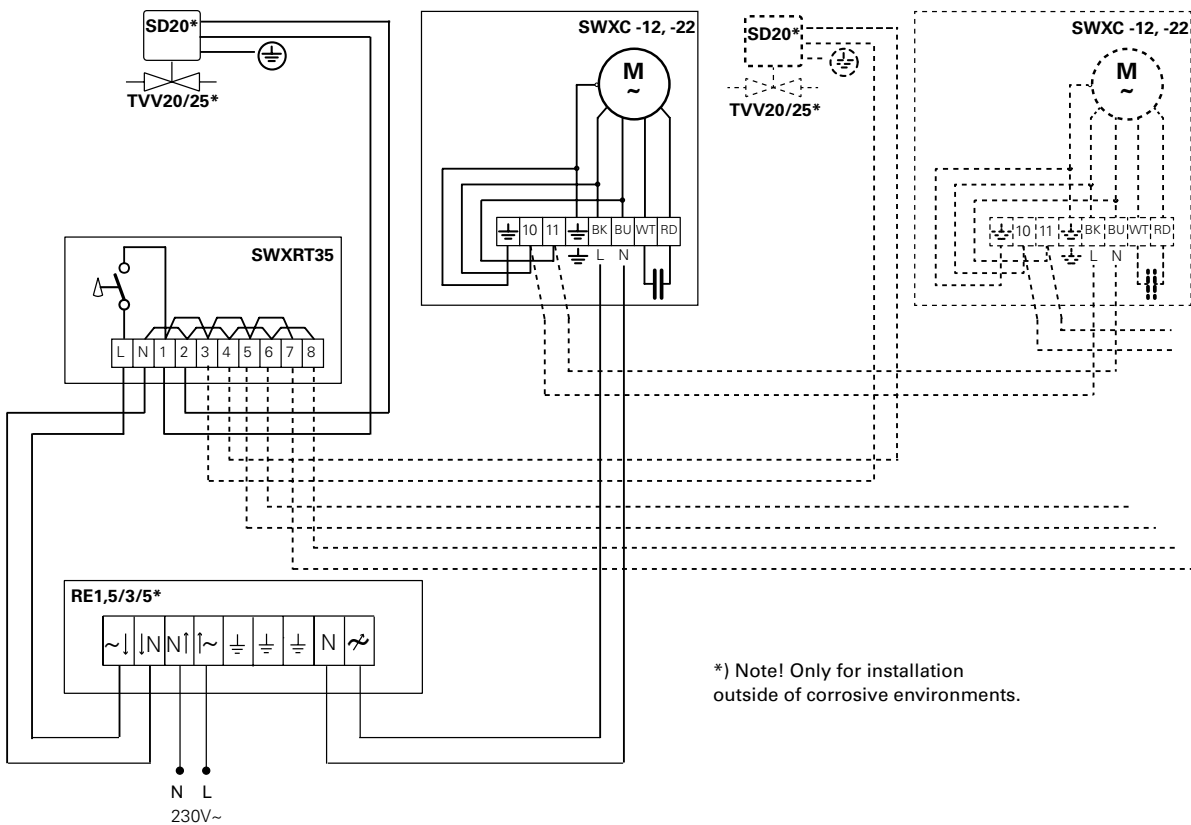
## Wiring diagrams

### SWX C

5-step control of airflow only



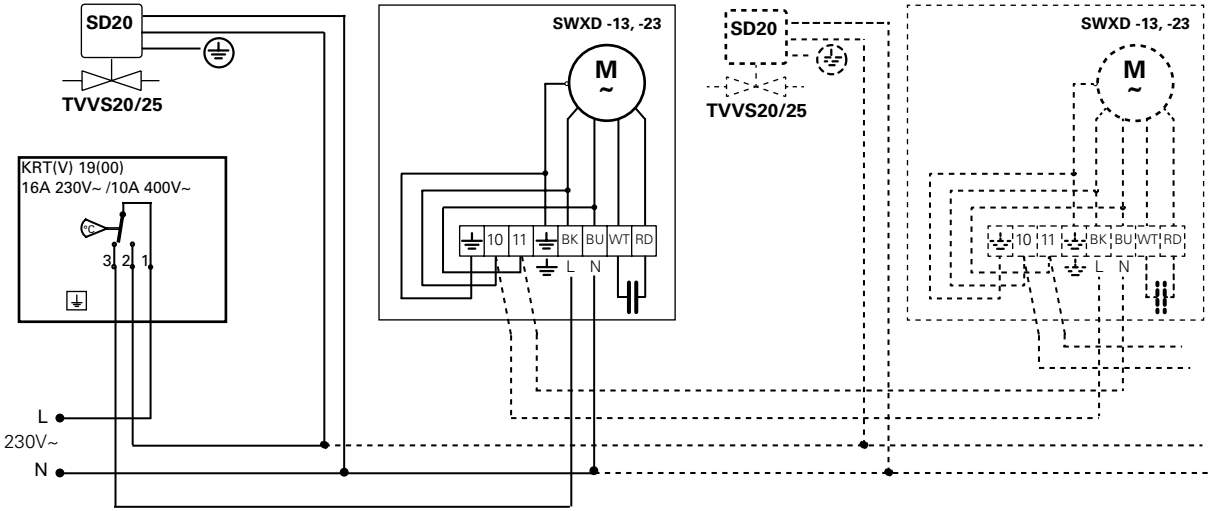
### Thermostat and 5-step control



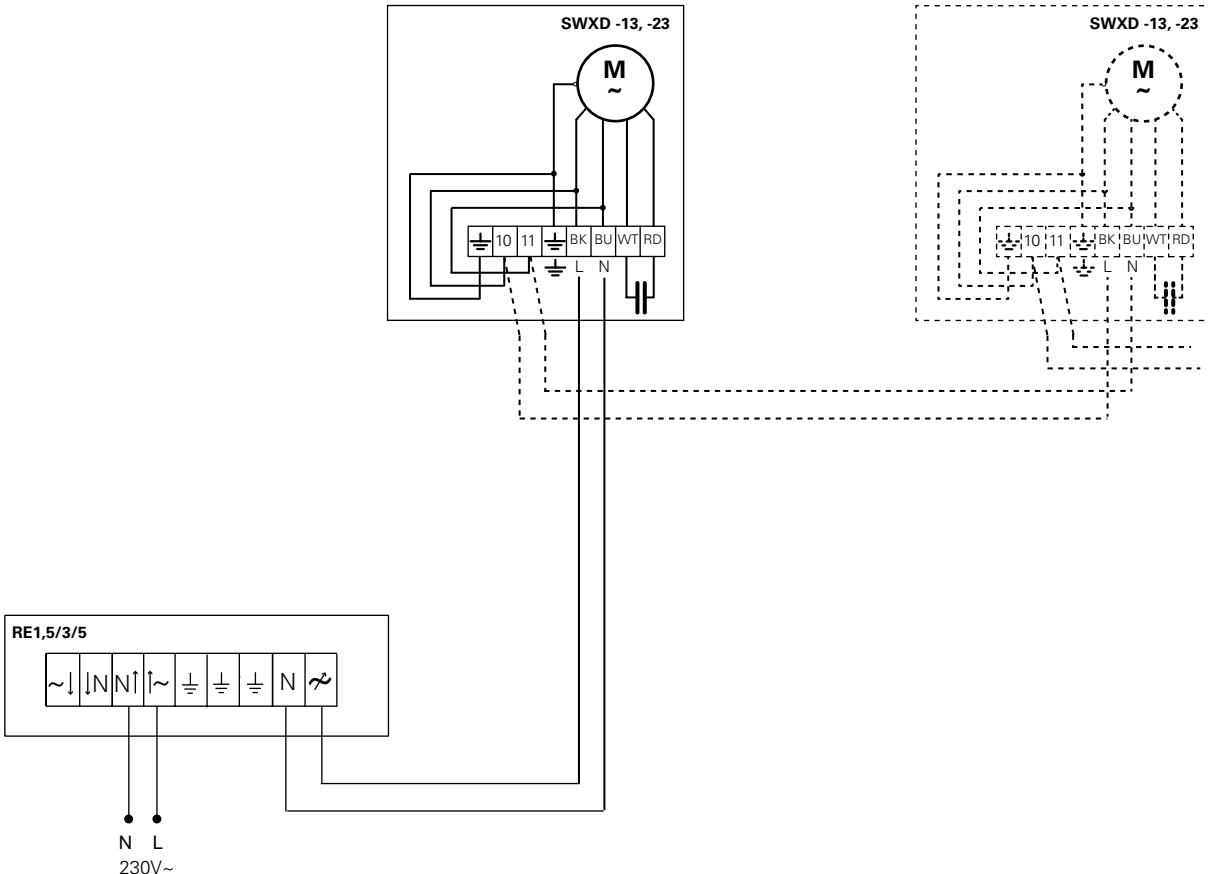
Wiring diagrams

SWX D

Control by thermostat only



5-step control of airflow only

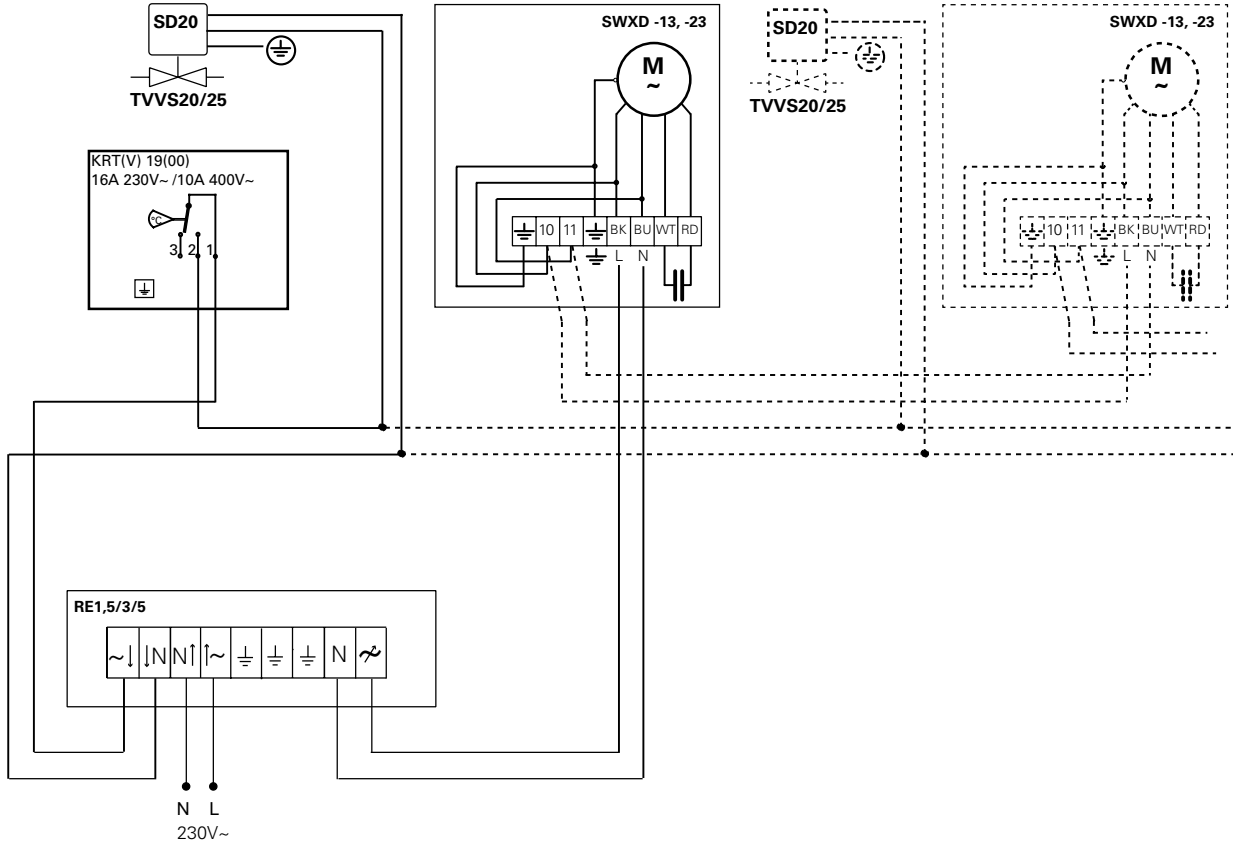


# Fan heater SWX C / D / H

## Wiring diagrams

### SWX D

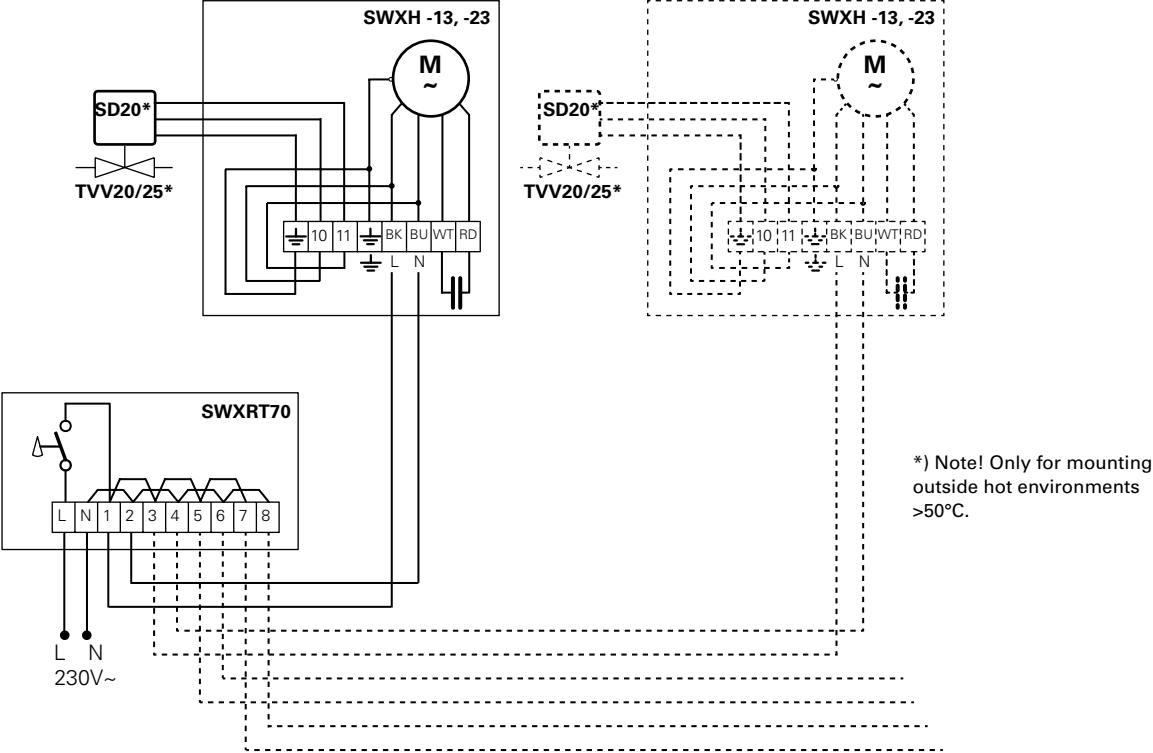
Thermostat and 5-step control



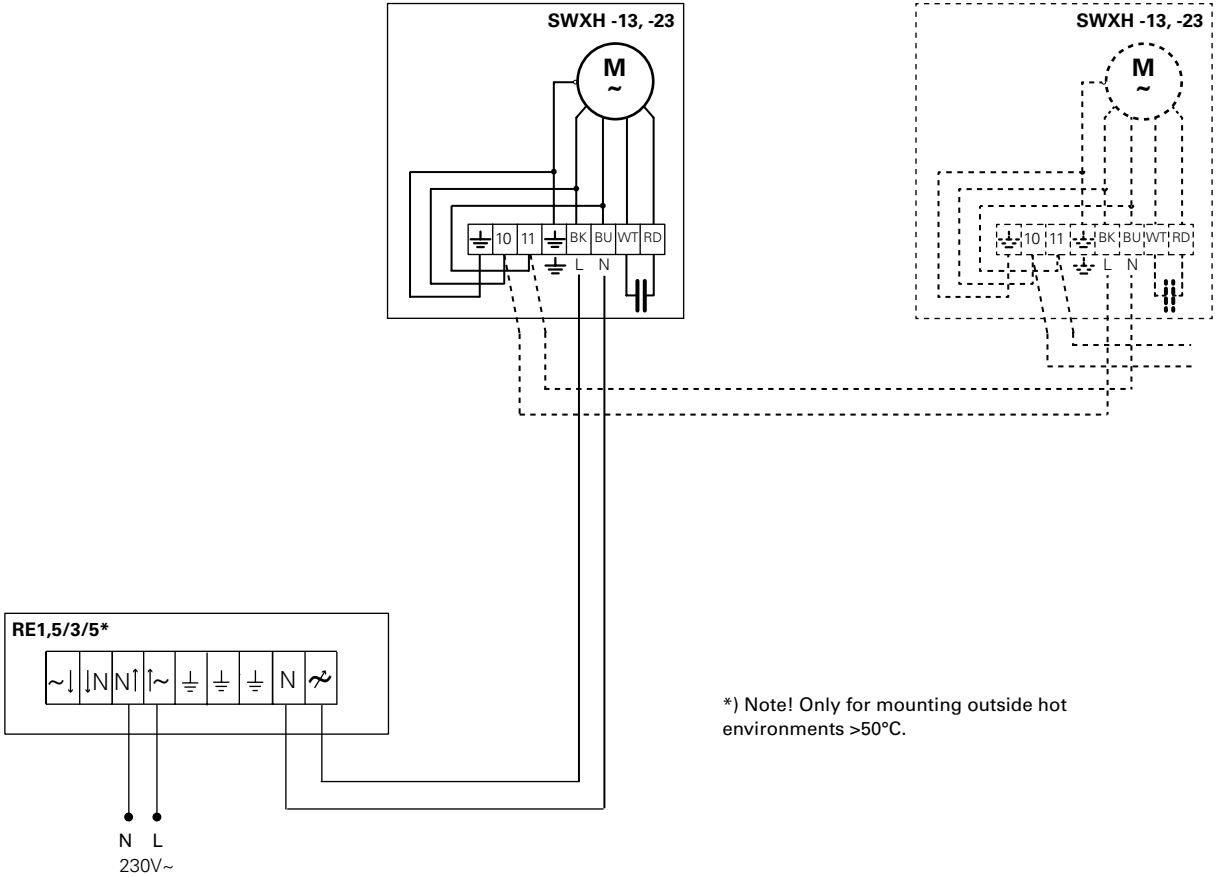
Wiring diagrams

SWX H

Control by thermostat only



5-step control of airflow only

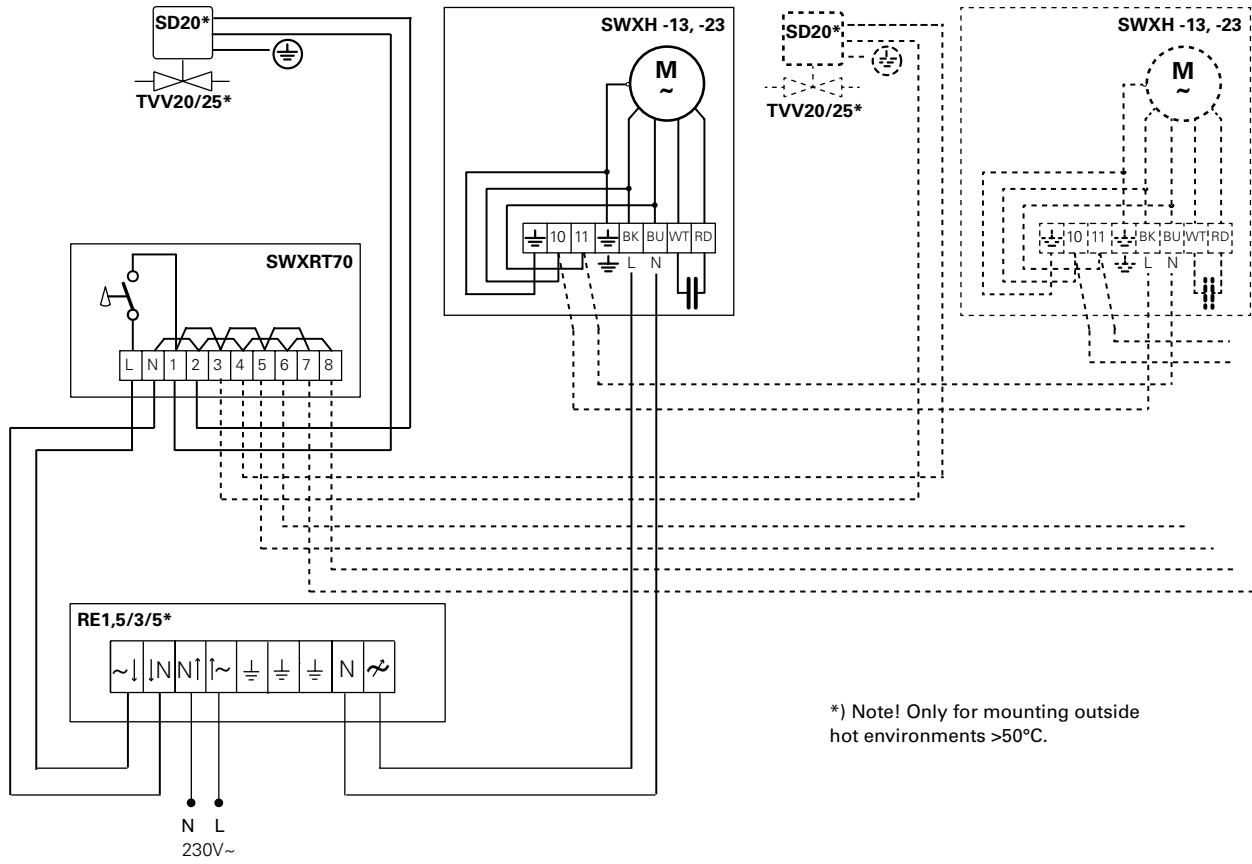


# Fan heater SWX C / D / H

## Wiring diagrams

### SWX H

Thermostat and 5-step control



\*) Note! Only for mounting outside hot environments >50°C.