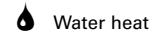




SWX CS/D



SWX CE/H



## Fan heater SWX CS / CE / 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 CS and SWX D can be opened for easy cleaning. SWX CE and SWX H have an inspection hatch with quick release.

### Product specifications

- Fan heater SWX is available in following versions:
  - **SWX CS/CE** is intended for corrosive and damp environments, e.g. offshore and chemical industries. SWX CS has a water coil made of stainless steel and SWX CE has an epoxy coated water coil. Corrosion class C5-M.
  - **SWX D** has been specially introduced for dusty environments, such as industrial and joinery premises.
  - **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.
- Intended for water temperatures up to +150 °C and 16 bar.
- Max. surrounding temperature +70 °C.
- High protection class, IP65.
- SWX CS/CE/D is supplied with brackets for wall or ceiling mounting. Wall brackets are 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 CS, for corrosive and damp environments. With water coil of stainless steel. (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> [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXCS12	20	2160	0,6	59	27	7	1,5	230V~	0,5	535x585x455	32
SWXCS22	37	4300	1,2	69	25	10	2,4	230V~	1,35	660x740x455	54

Fan heater SWX CE, for corrosive and damp environments. With epoxy coated water coil. (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> [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXCE12	21	2100	0,7	59	29	7	1,5	230V~	0,5	535x585x455	32
SWXCE22	40	4200	1,2	69	28	10	2,4	230V~	1,35	660x740x455	54

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> [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXD13	15	2200	0,6	59	20	7	2,2	230V~	0,5	535x585x455	32
SWXD23	29	4430	1,2	69	19	10	3,8	230V~	1,35	660x740x455	54

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> [l]	Voltage [V]	Amperage [A]	HxWxD [mm]	Weight [kg]
SWXH13	12	1830	0,5	57	21	6	2,2	230V~	0,5	530x550x380	28
SWXH23	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 +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.

\*<sup>5</sup>) Applicable at water temperature 80/60 °C, air temperature, in +40 °C.

SWX CS/CE complies with the requirements for corrosion class C5-M.

Approved by SEMKO. CE compliant.

## Material

### SWX CS

- 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.

### SWX CE

- Casing, air deflector grille and bracket made of acid-proof stainless steel, EN 1.4404.
- Water coil with copper tube and aluminium fins coated with ElectroFin E-coat. This means that the entire coil is dip-coated with flexible epoxy polymer with 100% coverage. Thermal loss less than 1%.

### SWX D

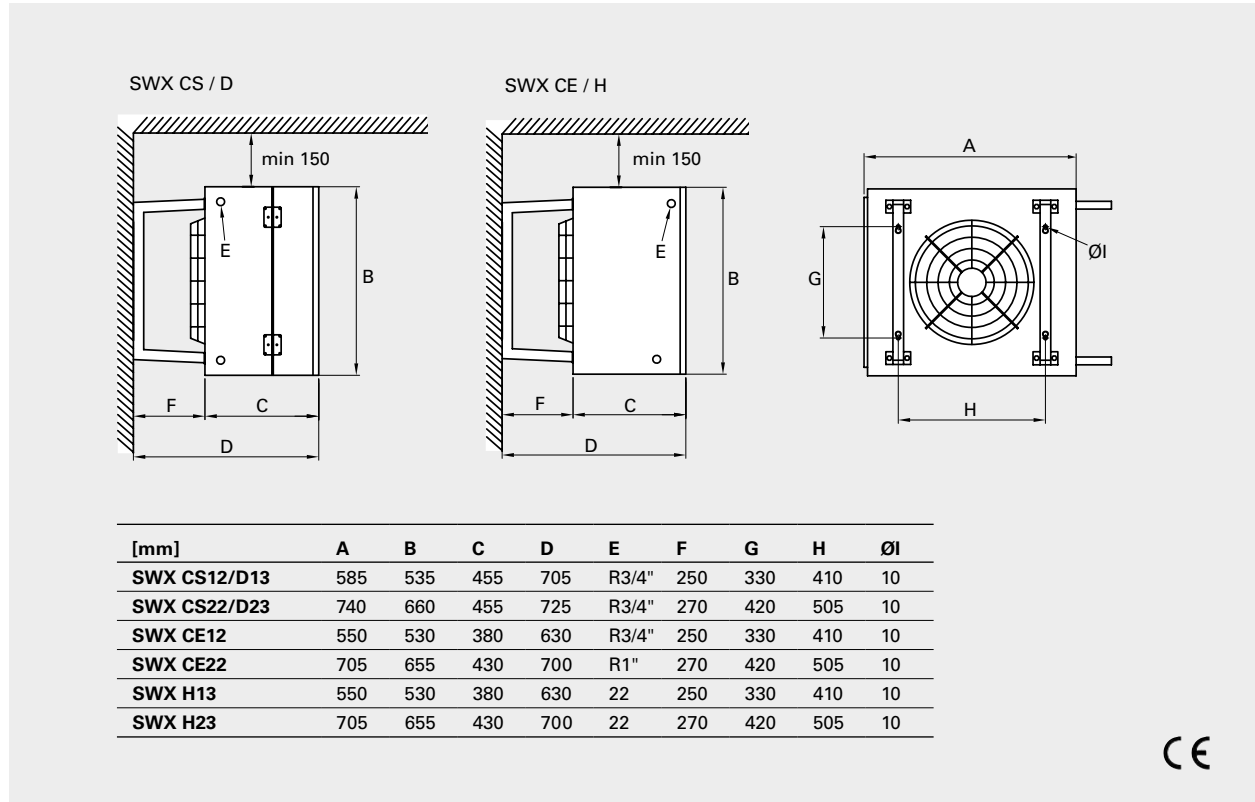
- Casing, air deflector grille and bracket made of acid-proof stainless steel, EN 1.4404.
- Water coil featuring copper pipes and aluminium fins.
- Flat fin spacing of 4.2 mm to minimise the risk of dust and particles clogging up the water coil.

### SWX H

- The casing, air directors and brackets are made of stainless steel, EN 1.4016.
- Water coil with copper pipes and louvres with hydrophilic coating for easier cleaning and better durability, among other things.

# Fan heater SWX CS / CE / D / H

## Dimensions



## Mounting and connection

### Mounting

#### SWX CS / CE / 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

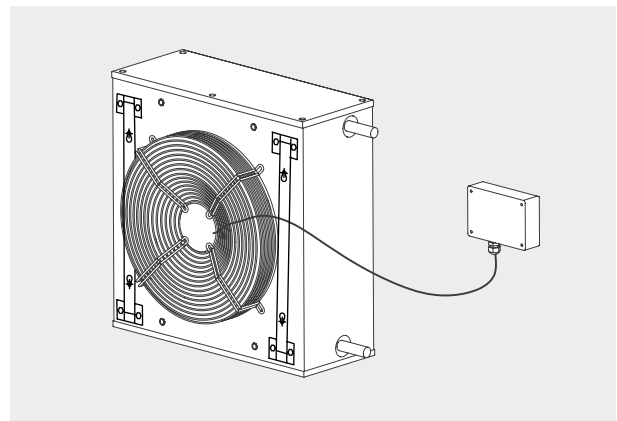
The fan heaters are mounted on the wall. Wall brackets included. For minimum distance, see dimension diagrams.

### 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.



The front of SWX CS and SWX D can be opened for easy cleaning.

## Control options

### SWX CS / CE / 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 CS/CE)  
SWXRT70, room thermostat (SWX H)
- TVV20/25, 2-way valve + SD20, actuator

### 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.

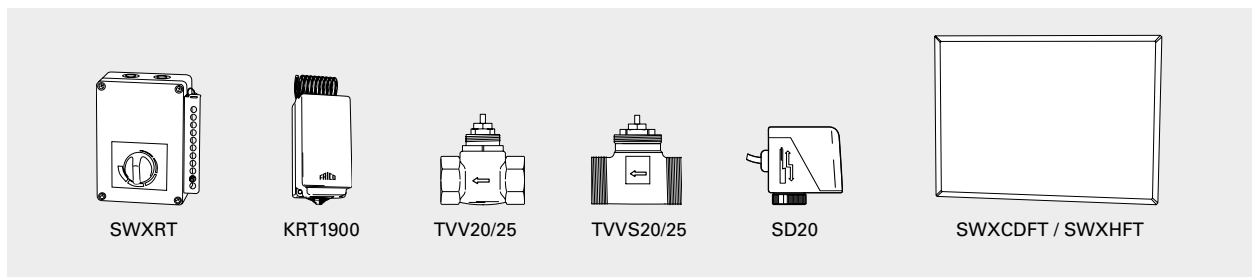
Complete regulation kit:

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

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.

## 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.

#### 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/SWXHFT, 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 CS/CE	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>TVV20/25*</b>	2-way valve DN20/25, SWX CS/CE/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 CS12/D13	515x425x5
<b>SWXCDFT2</b>	Wire mesh filter for SWX CS22/D23	620x565x5
<b>SWXHFT1</b>	Wire mesh filter for SWX CE12/H13	455x525x15
<b>SWXHFT2</b>	Wire mesh filter for SWX CE22/H23	595x650x15

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

# Fan heater SWX CS / CE / D / H

## Output charts water

### SWX CS

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]
SWXCS12	2160	28,9	44,5	0,36	16,5	24,6	48,4	0,30	12,2
SWXCS22	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]
SWXCS12	2160	24,3	38,2	0,30	12,2	20,0	42,1	0,24	8,2
SWXCS22	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]
SWXCS12	2160	14,9	25,4	0,18	4,9	10,7	29,5	0,13	2,7
SWXCS22	4300	27,4	23,8	0,33	5,5	19,4	28,2	0,24	2,7

### SWX CE

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]
SWXCE12	2100	29,5	45,2	0,37	11,9	24,8	50,1	0,31	8,6
SWXCE22	4200	56,6	43,6	0,70	30,3	47,7	48,8	0,59	22

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]
SWXCE12	2100	25,2	39,4	0,31	9,0	20,6	44,2	0,26	6,1
SWXCE22	4200	48,5	38,1	0,60	23,1	39,8	43,2	0,49	15,9

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]
SWXCE12	2100	16,4	27,4	0,20	4,2	11,9	31,9	0,15	2,3
SWXCE22	4200	32,2	26,9	0,40	11,2	23,7	31,8	0,29	6,4

Output charts water

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

SWX H

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

Type	Airflow [m³/h]	Air temperature in +20 °C				Air temperature in +40 °C				Air temperature in +60 °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]	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

Type	Airflow [m³/h]	Air temperature in +20 °C				Air temperature in +40 °C				Air temperature in +60 °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]	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

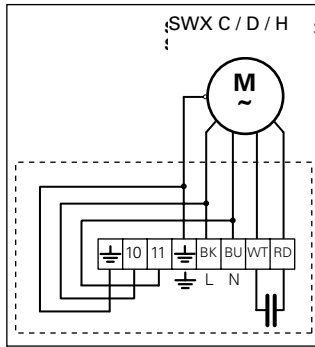
Supply water temperature / Return water temperature 98/85 °C

Type	Airflow [m³/h]	Air temperature in +20 °C				Air temperature in +40 °C				Air temperature in +60 °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]	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 CS / CE / D / H

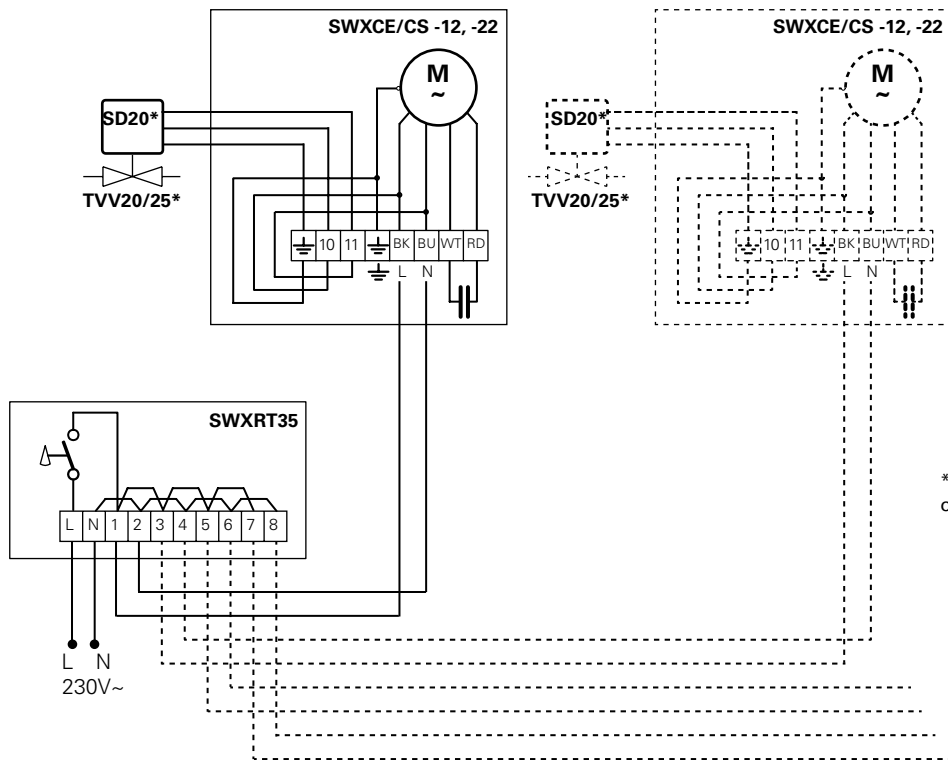
## Wiring diagrams

### Internal wiring diagram



## SWX CE/CS

### Control by thermostat only

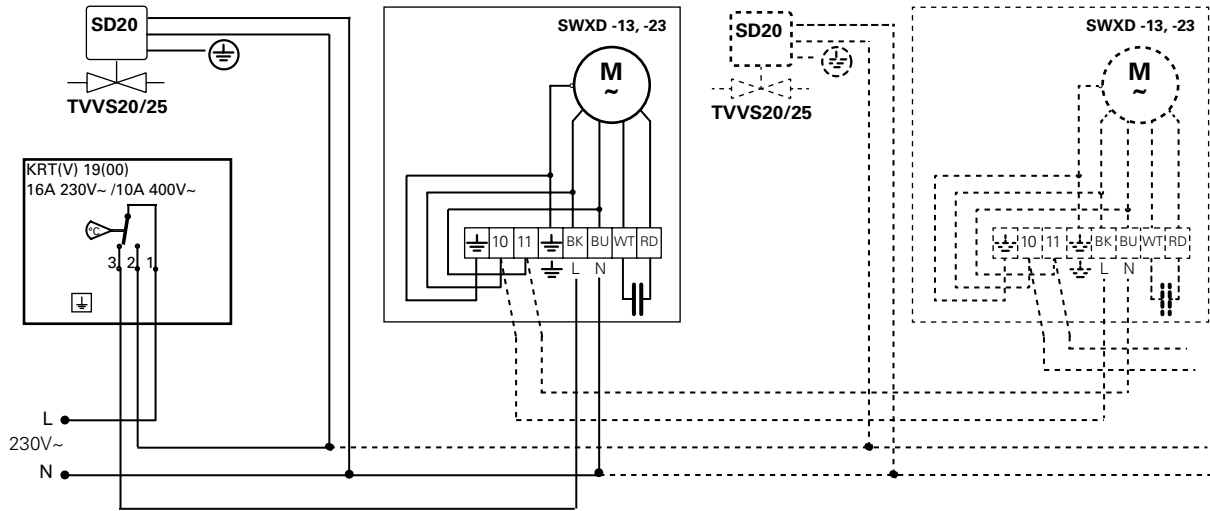


\*) Note! Only for installation outside of corrosive environments.

Wiring diagrams

SWX D

Control by thermostat only



SWX H

Control by thermostat only

