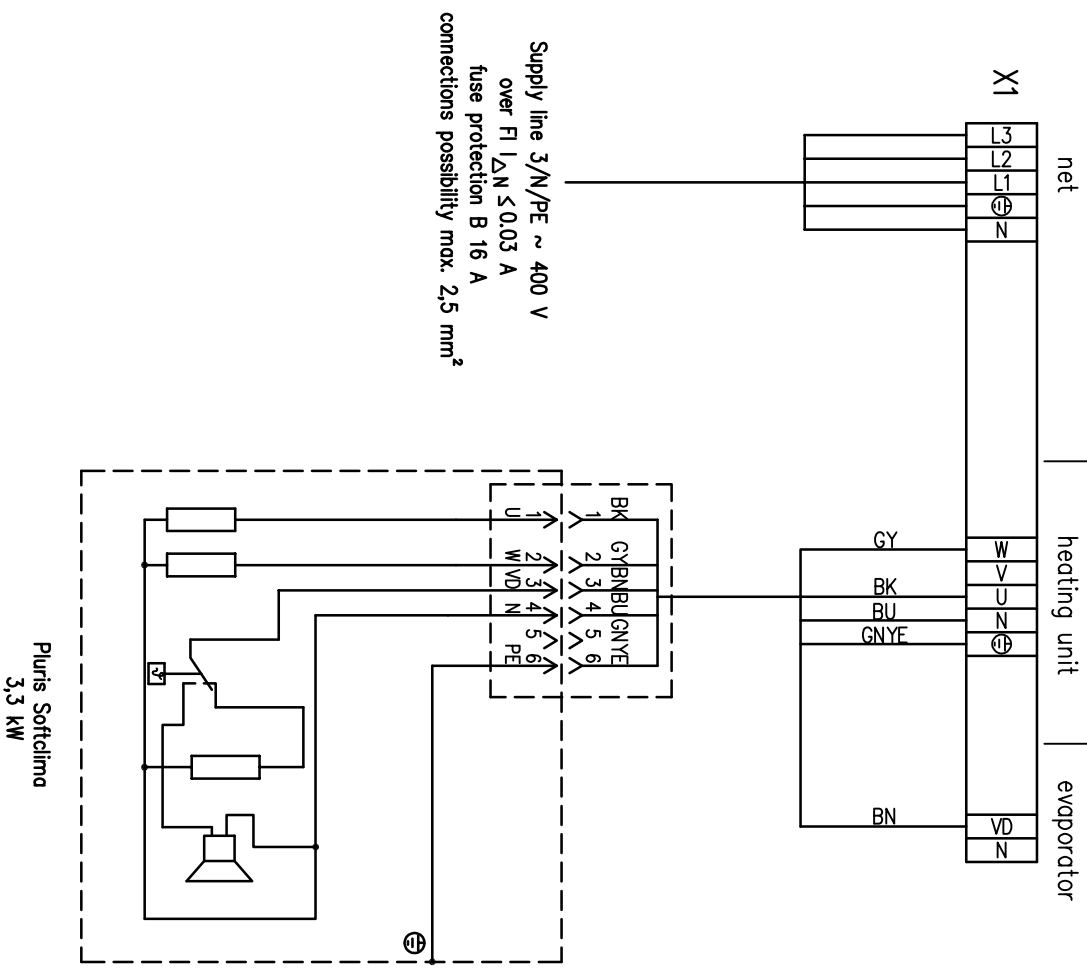
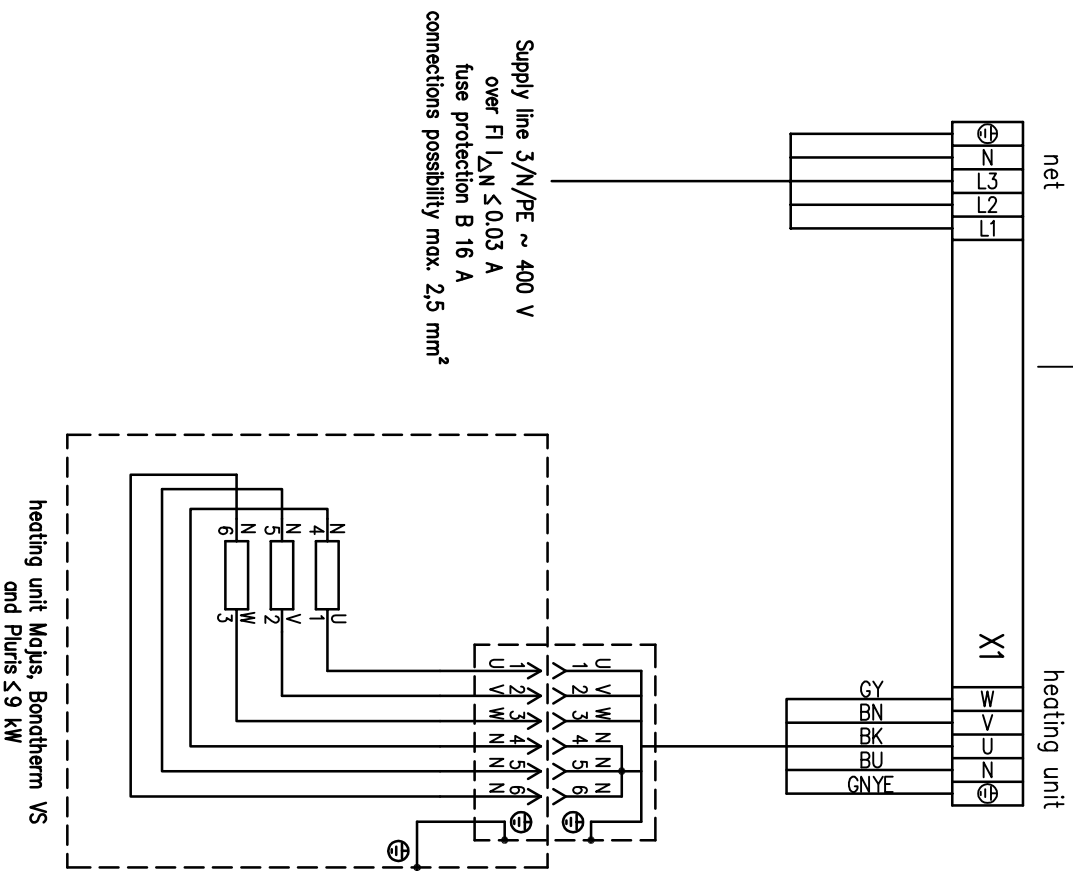


Circuit- and
Installation diagram
for
Sanarium
Control unit
18033

with one heater
-9 kW

Connecting clamp in control unit 18033



connecting diagram		Datum 6.5.2010		Bearb. Vherr	
Index		Änderung Datum Name Norm		Ers.f.	
a		Pluris 3,3 kW/26.05.11 PA		Gepf.	
1		2		3	
4		5		6	
7		8		9	
10		11		12	

KLAUFES
Erich-Klaus-Str. 1-3
74523 Schwöbisch Hall

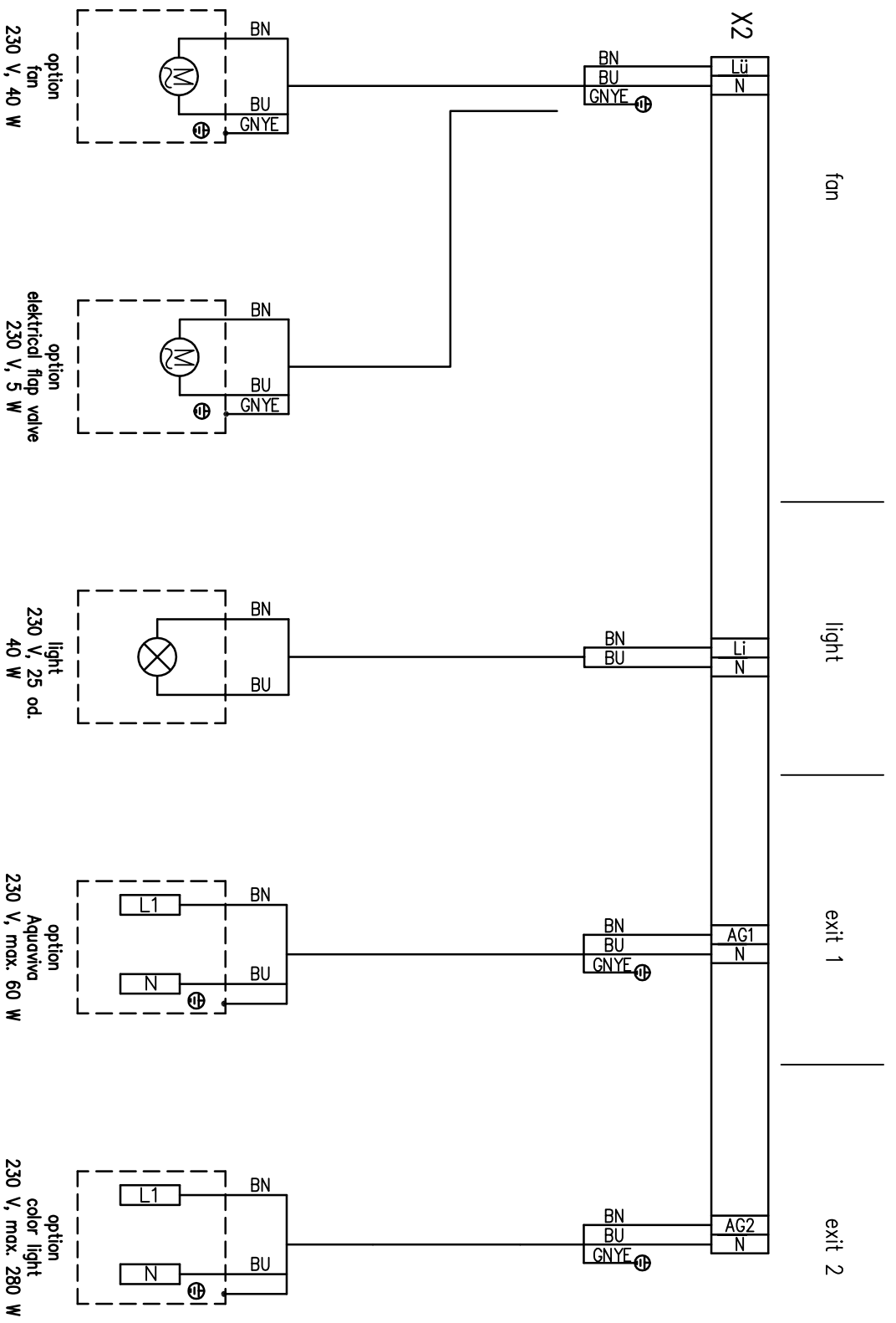
Sanarium

control unit 18033

50701222

Blatt 1
von 12 Bl.

Connecting clamp in control unit 18033



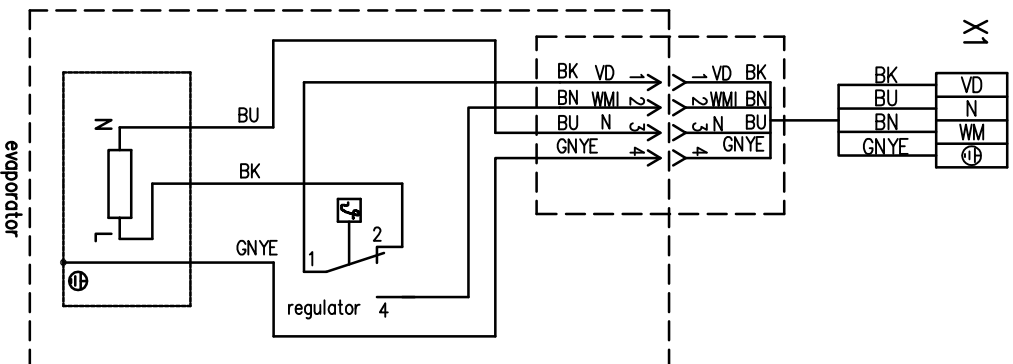
Warning !
exit 1 + light + fan = max. 280 W

Index		Änderung		Datum		Name		Datum		6.5.2010		Bearb.		VHerr	
Ers.f.		Ers.d.		Urspr.		connecting diagram		KLAFFS		Erich-Klafs-Str. 1-3		74523 Schwabisch Hall		Sanarium	
50701222		control unit 18033		Blatt 2		von 12 Bl									

Connecting clamps in control unit 18033

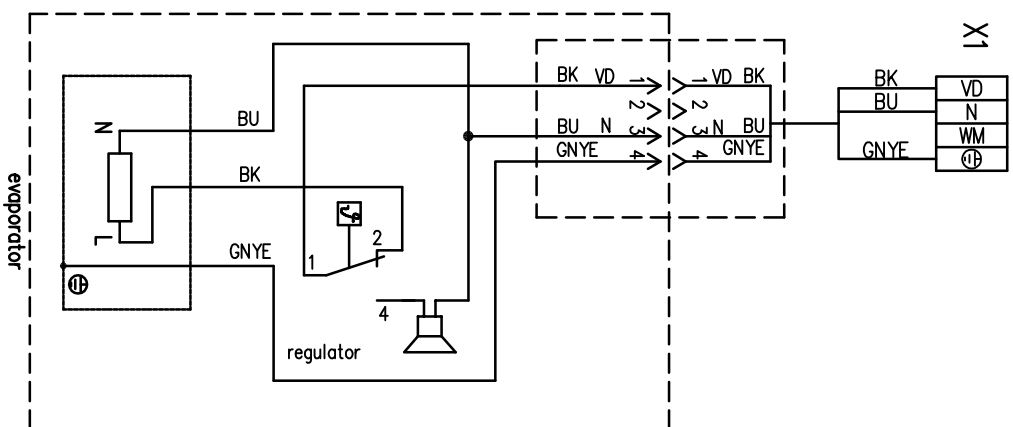
Sanarium M / Sanarium B

evaporator



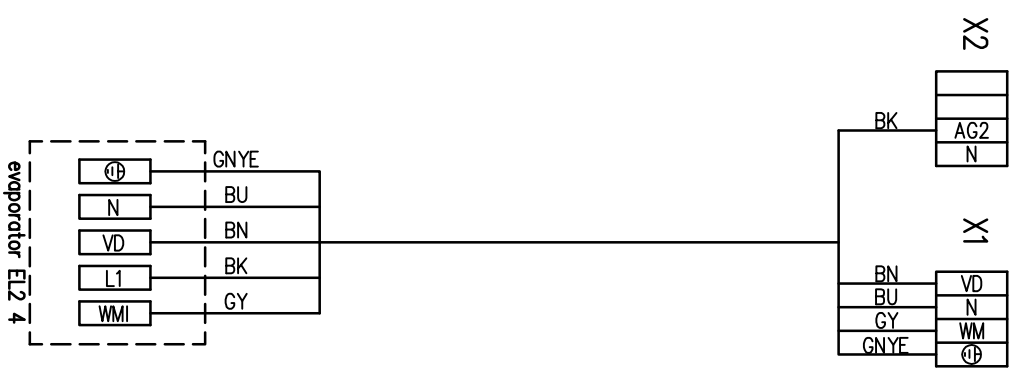
Sanarium C

evaporator



Sanarium S

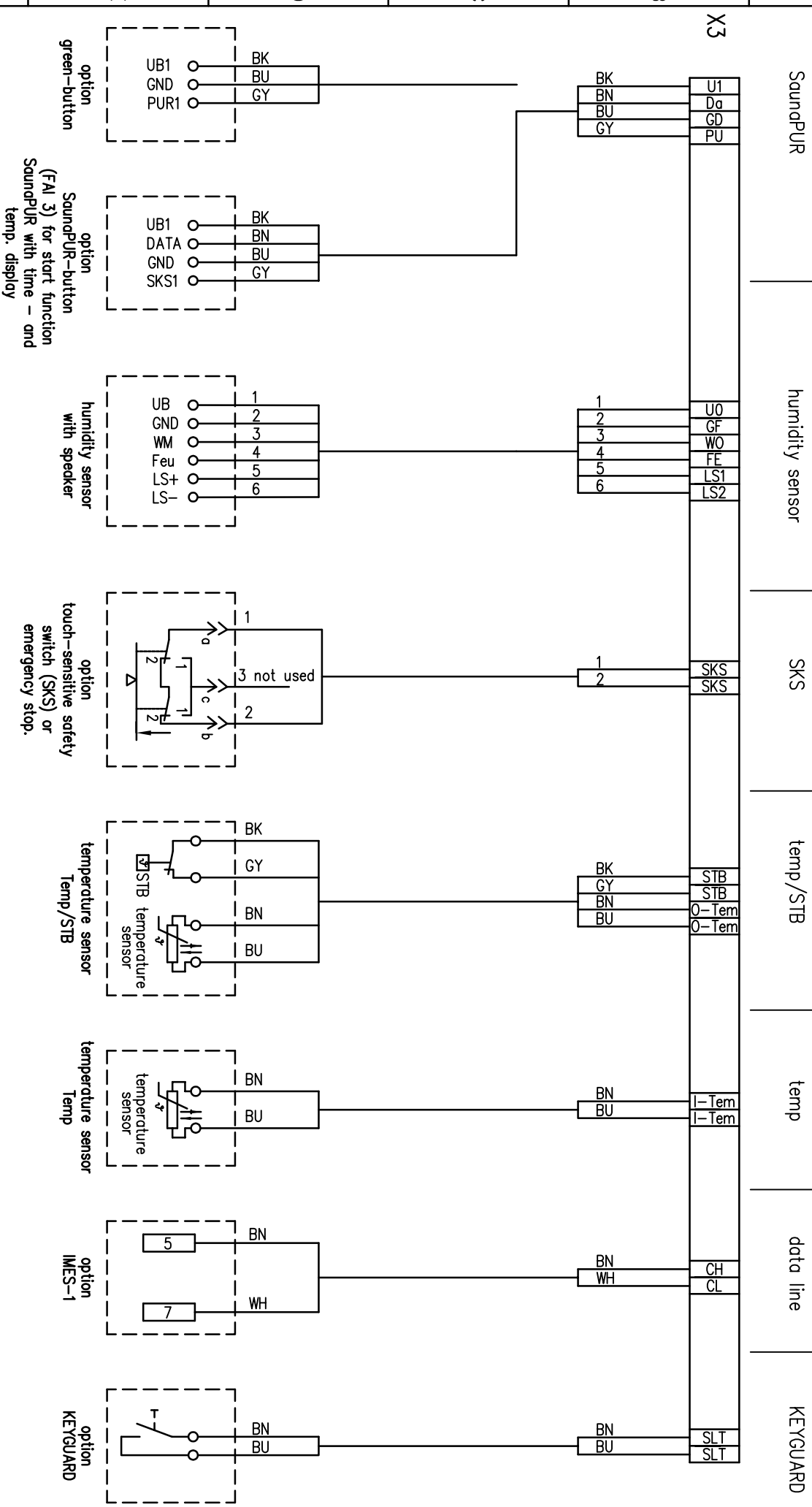
exit 2 | evaporator



connecting diagram

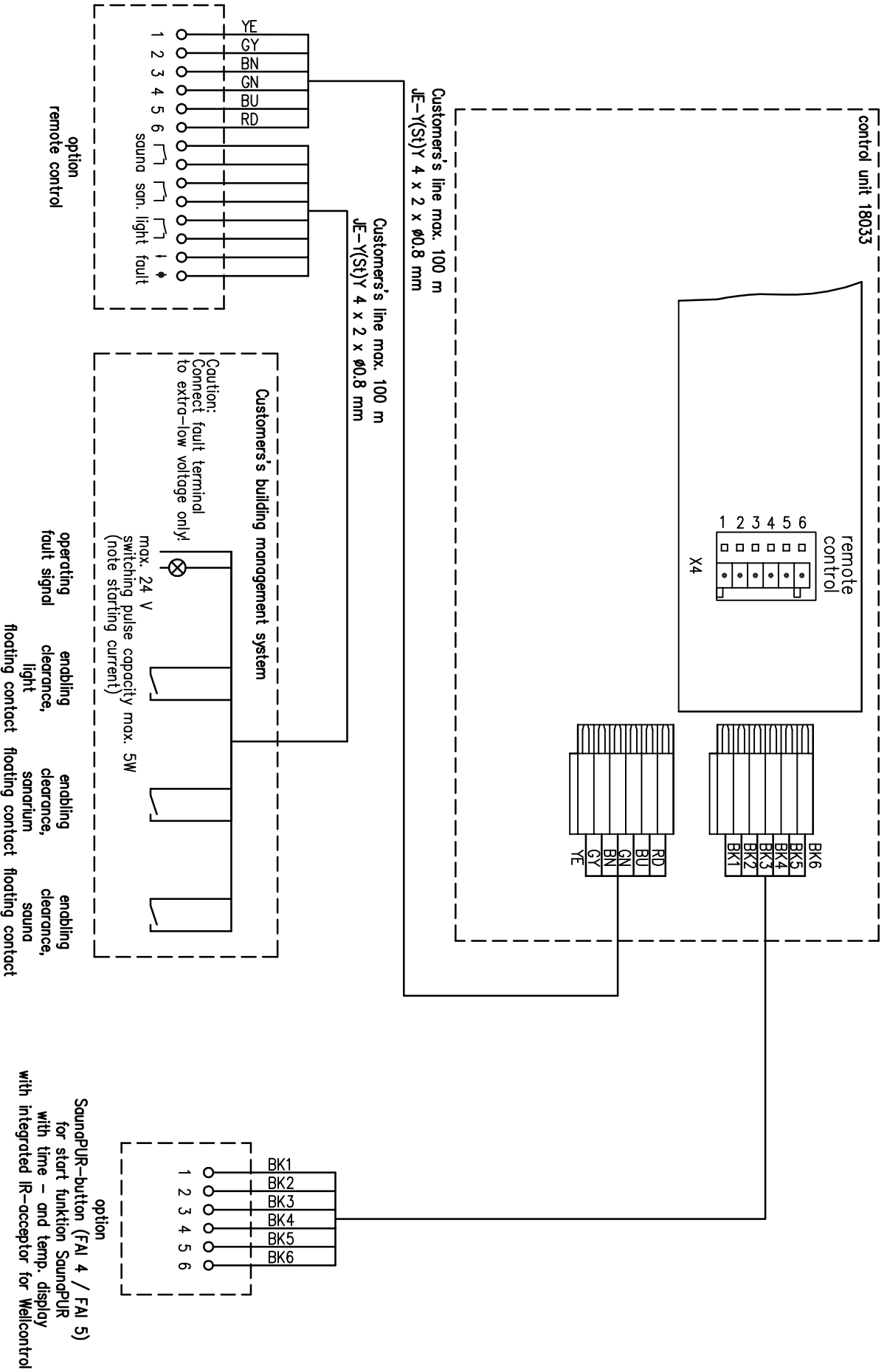
		Datum	6.5.2010						
		Bearb.	Vherr						
		PA	Gepr.						
Index	Änderung	Datum	Norm	Urspr.	Ers.f.	Ers.d.			
1									
				KLAES		Erich-Klats-Str. 1-3 74523 Schwäbisch Hall		Sanarium	
				control unit 18033		=			
				50701222		Blatt 3 von 12 Bl			

Connecting clamp in control unit 18033



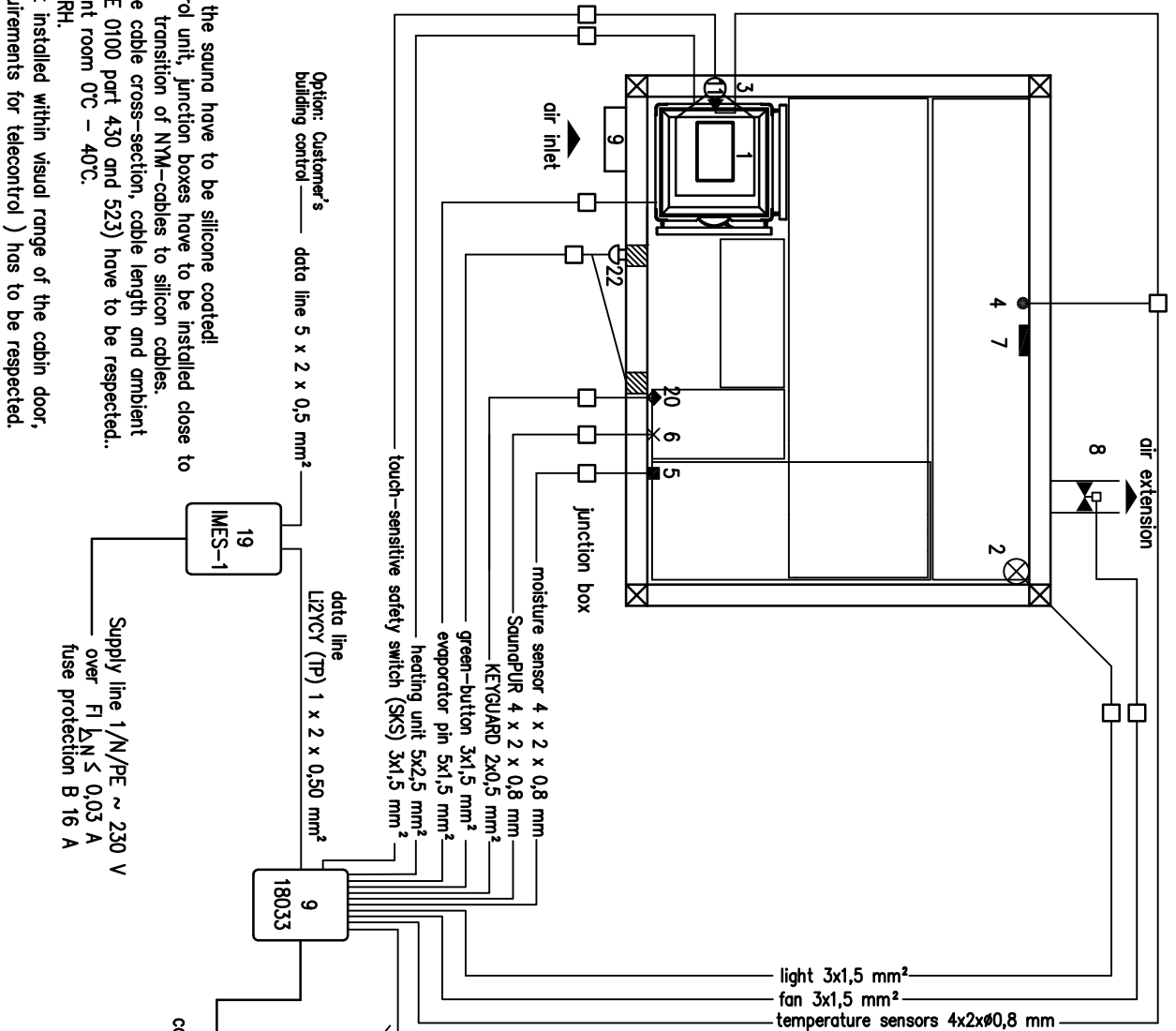
Index	Änderung	Datum	Name	Norm	connecting diagram		Urspr.		Ers.f.
1		6.5.2010	Vherr		KLAFFS		Erich-Klafs-Str. 1-3		
					Sanarium		74523 Schwöbisch Hall		
					control unit 18033		50701222		
							Blatt 4		
							von 12 Bl		

Connecting clamp in control unit 18033



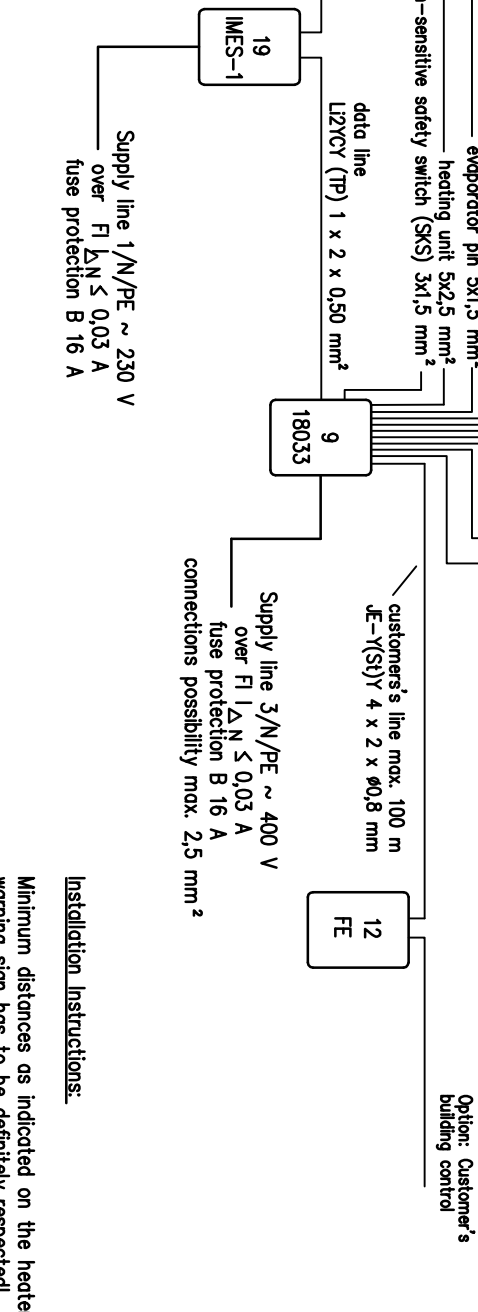
Index		Änderung		Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
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				Bearb.		Gepr.			
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				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
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				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
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				Bearb.		Gepr.			
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				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
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				Bearb.		Gepr.			
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				Bearb.		Gepr.			
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				Bearb.		Gepr.			
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				Bearb.		Gepr.			
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				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
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				Datum		Name		Norm	
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				Datum		Name		Norm	
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				Datum		Name		Norm	
				6.5.2010		VHerr			
				Bearb.		Gepr.			
				Datum		Name		Norm	
				6.5.2010		VHerr			
</									

Installation diagram for Klafs-Sanarium-Technik
modell "M" and "C" heating units wall and stand



- Legend:
- 1 = Heating unit
 - 2 = Light
 - 3 = Temperature sensor temp/STB
height = 0,10 m below sauna ceiling (middle of the housing)
The limiter unit is mounted at 2,10 m when the sauna is higher than 2,20 m.
 - 4 = Temperature sensor Temp
height = 0,15 m below sauna ceiling (middle of the housing),
The limiter unit is mounted at 2,10 m when the sauna is higher than 2,25 m.
 - 5 = Moisture sensor with speaker
height = 1,38 m top edge housing above finished floor
Min. distance from steam inlet: 1 m!
 - 6 = Saunapur with time - and temp. display
and integrated IR-acceptor for remote control
 - 7 = Thermometer
height = 0,15 m below sauna ceiling (middle of the housing)
 - 8 = Fan / electrical flap valve 230 V (option)
 - 9 = Control unit 18033
Height 1,65 m above finished floor level (centre of display).
 - 10 = Evaporator - technik modell "M"
 - 11 = touch-sensitive safety switch (SKS) (option)
 - 12 = Remote Control (option)
 - 19 = IMES-1 (option)
 - 20 = KEYGUARD (option)
 - 22 = Green-button (option)

Important!
All electric cables inside the sauna have to be silicone coated!
In case of external control unit, junction boxes have to be installed close to the sauna cabin for the transition of NVM-cables to silicon cables.
In order to determine the cable cross-section, cable length and ambient temperature (acc. to VDE 0100 part 430 and 523) have to be respected.
Ambient temperature plant room 0°C – 40°C.
Air humidity max: 80 % RH.
If the control unit is not installed within visual range of the cabin door, standard EN 60335 (requirements for telecontrol) has to be respected.

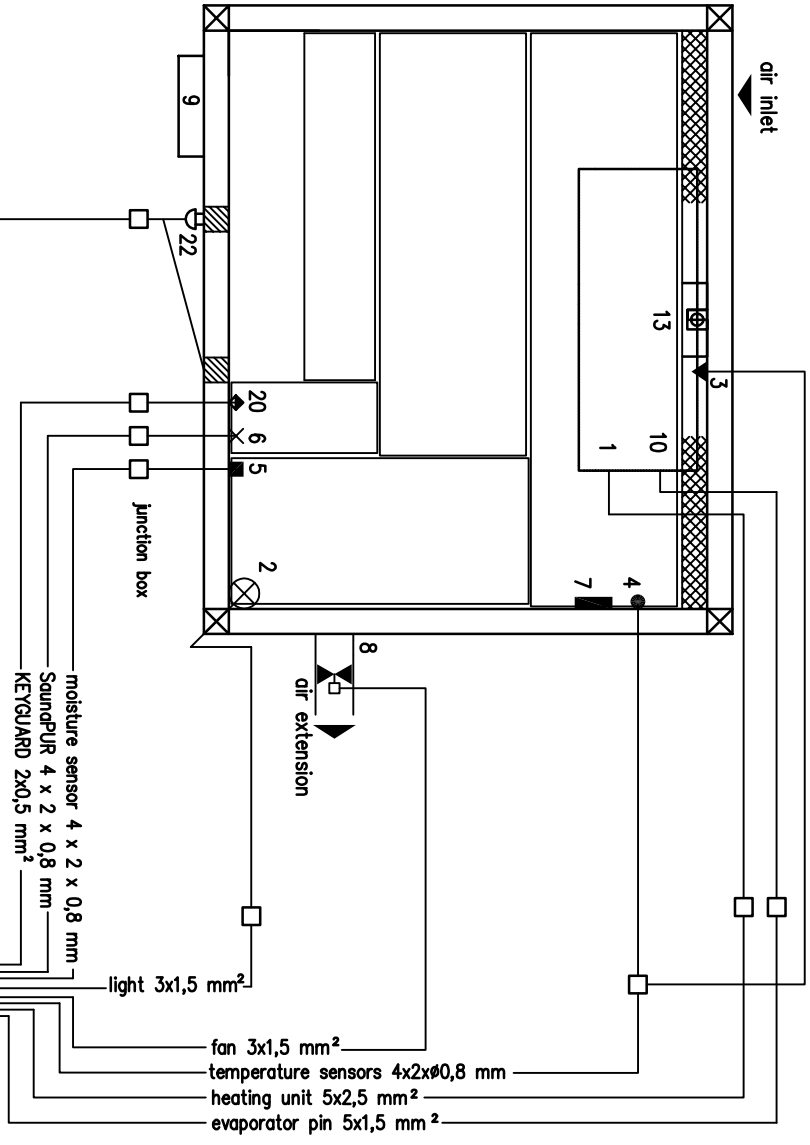


Installation Instructions:

Minimum distances as indicated on the heater warning sign has to be definitely respected!

Date: 6.5.2010		Installation diagram		Date: 6.5.2010		Date: 6.5.2010	
By: Vherr		Sanarium M		Erich-Klafs-Str. 1-3		Date: 6.5.2010	
Checked: Gepr.		Ers.f.		74523 Schwäbisch Hall		Date: 6.5.2010	
Name: Norm		Ers.d.		Sanarium		Date: 6.5.2010	
Änderung: Datum		Ers.f.		control unit 18033		Date: 6.5.2010	
Datum		Ers.d.		50701222		Date: 6.5.2010	
Name		Ers.f.		Blatt 6		Date: 6.5.2010	
Norm		Ers.d.		von 12 Bl		Date: 6.5.2010	

Installationsplan für Klafs-Sanarium-Technik
modell "B" with Bonathern heating unit



- Legend:
- 1 = Heating unit
 - 2 = Light
 - 3 = Temperature sensor temp/STB
height = 0,10 m below grille hot air canal
centric above heating unit (middle of the housing)
 - 4 = Temperature sensor Temp
height = 0,15 m below sauna ceiling (middle of the housing),
The limiter unit is mounted at 2,10 m when
the sauna is higher than 2,25 m.
 - 5 = Moisture sensor with speaker
height = 1,38 m top edge housing above finished floor
Min. distance from steam inlet: 1 m!
 - 6 = SaunpPUR with time – and temp. display
and integrated IR-acceptor of remote control
Thermometer
 - 7 = Fan / electrical flap valve 230 V (option)
 - 8 = Control unit 18033
Height 1,65 m above finished floor level (centre of display).
 - 9 = Evaporator – technik modell "B"
 - 10 = touch-sensitive safety switch (SKS) (option)
 - 11 = Remote Control (option)
 - 12 = Steam inlet port
 - 13 = IMES-1 (option)
 - 19 = KEYGUARD (option)
 - 20 = Green-button (option)
 - 22 =

Option: Customer's building control

Option: Customer's building control

data line 5 x 2 x 0,5 mm²

green-button 3x1,5 mm²

data line L2YCY (TP) 1 x 2 x 0,50 mm²

Supply line 1/N/PE ~ 230 V
over FI I_{ΔN} ≤ 0,03 A
fuse protection B 16 A

19 IMES-1

9 18033

moisture sensor 4 x 2 x 0,8 mm

SaunpPUR 4 x 2 x 0,8 mm

KEYGUARD 2x0,5 mm²

light 3x1,5 mm²

fan 3x1,5 mm²

temperature sensors 4x2x0,8 mm

heating unit 5x2,5 mm²

evaporator pin 5x1,5 mm²

air extension

junction box

22

20

6

5

8

13

10

1

4

7

3

9

Option: Customer's building control

customer's line max. 100 m
JE-(S)Y 4 x 2 x 0,8 mm

12 FE

Option: Customer's building control

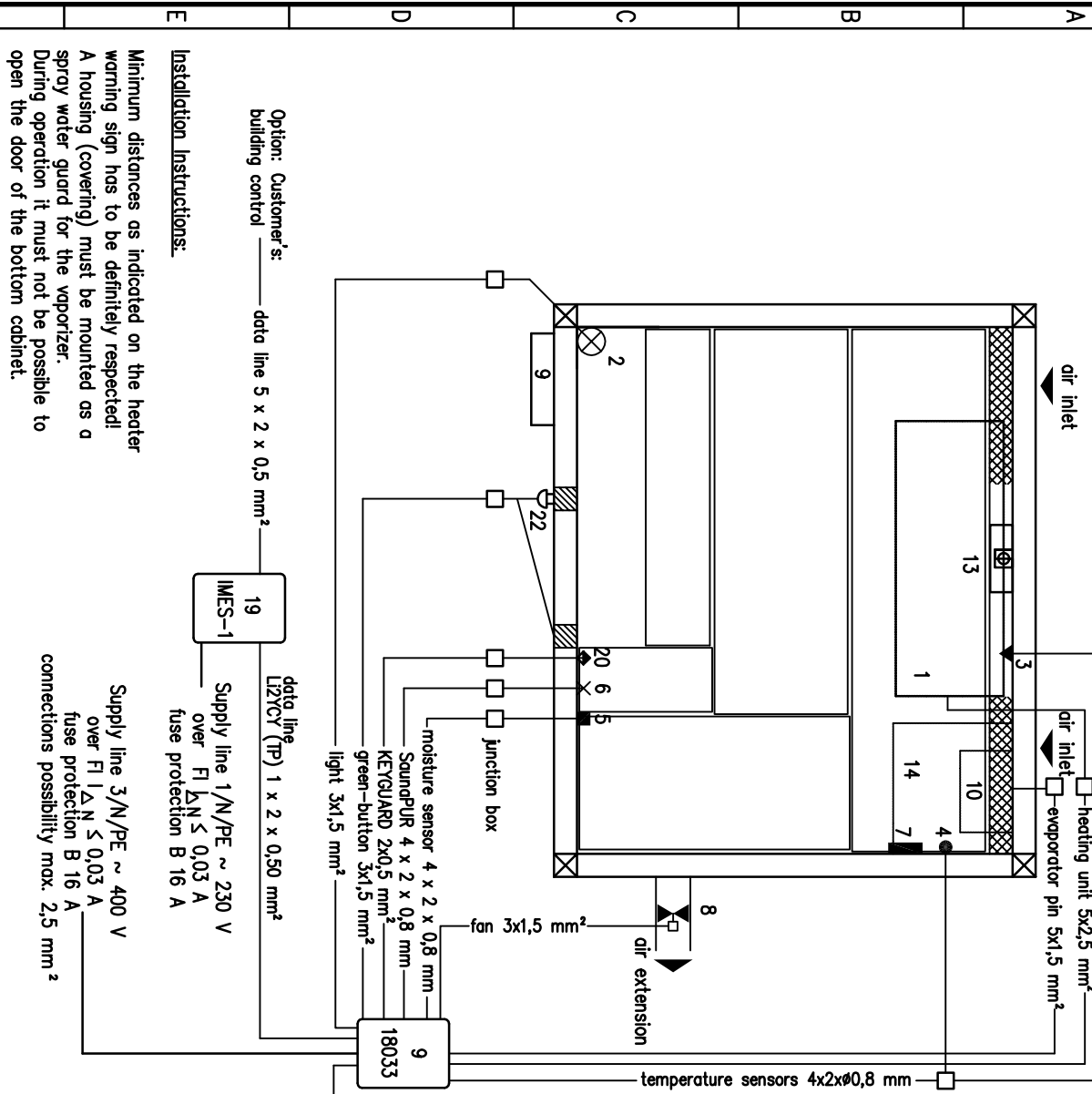
Supply line 3/N/PE ~ 400 V
over FI I_{ΔN} ≤ 0,03 A
fuse protection B 16 A
connections possibility max. 2,5 mm²

Installation Instructions:

Minimum distances as indicated on the heater
warning sign has to be definitely respected!

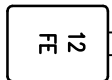
Installation diagram		Sanarium B		KLAFFS		Sanarium	
Datum	6.5.2010	Bearb.	Vherr	Erich-Klafs-Str. 1-3	74523 Schwäbisch Hall		control unit 18033
Änderung		Datum		Urspr.			50701222
Index		Name	Norm	Ers.f.			Blatt 7
	1						von 12 Bl

Important!
All electric cables inside the sauna have to be silicone coated!
In case of external control unit, junction boxes have to be installed close to the sauna cabin for the transition of NEM-cables to silicon cables.
In order to determine the cable cross-section, cable length and ambient temperature (acc. to VDE 0100 part 430 and 523) have to be respected.
Ambient temperature plant room 0°C – 40°C.
Air humidity max. 80 % RH.
If the control unit is not installed within visual range of the cabin door, standard EN 60335 (requirements for telecontrol) has to be respected.



- Legend:
- 1 = Heating unit
 - 2 = Light
 - 3 = Temperature sensor temp/STB
height = 0.10 m below grille hot air canal
 - 4 = Temperature sensor Temp
centric above heating unit (middle of the housing),
height = 0.15 m below sauna ceiling (middle of the housing),
The limiter unit is mounted at 2.10 m when
the sauna is higher than 2.25 m.
 - 5 = Moisture sensor with speaker
height = 1.38 m top edge housing above finished floor
 - 6 = Saunapur with time - and temp. display
Min. distance from steam inlet: 1 m!
 - 7 = and integrated IR-acceptor of remote control
Thermometer
 - 8 = height = 0.15 m below sauna ceiling (middle of the housing)
Fan / electrical flap valve 230 V (option)
 - 9 = Control unit 18033
Height 1.65 m above finished floor level (centre of display).
 - 10 = Evaporator - CP2 H4
 - 11 = touch-sensitive safety switch (SKS) (option)
 - 12 = Remote Control (option)
 - 13 = Steam inlet port
 - 14 = Cabinet under bench mounting (door inside)
 - 19 = IMES-1 (option)
 - 20 = KEYS-1 (option)
 - 22 = Green-button (option)

customer's line max. 100 m
JE-(St)Y 4 x 2 x Ø0,8 mm



Option: Customer's
building control

Installation instructions:

Minimum distances as indicated on the heater warning sign has to be definitely respected!
A housing (covering) must be mounted as a spray water guard for the vaporizer.
During operation it must not be possible to open the door of the bottom cabinet.

Option: Customer's:
building control: data line 5 x 2 x 0,5 mm²

data line LIZYCY (P) 1 x 2 x 0,50 mm²

Supply line 1/N/PE ~ 230 V
over FI ΔN ≤ 0,03 A
fuse protection B 16 A

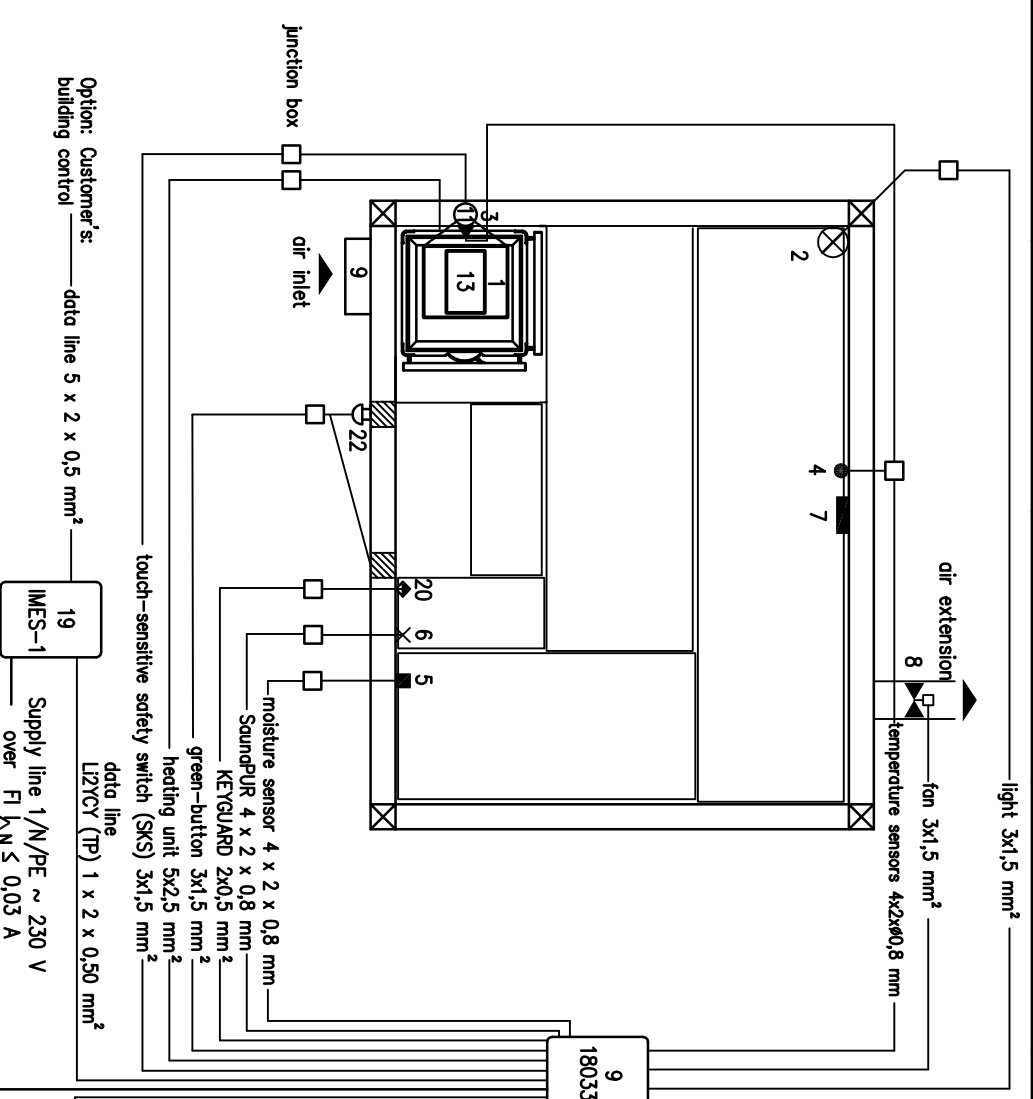
Supply line 3/N/PE ~ 400 V
over FI ΔN ≤ 0,03 A
fuse protection B 16 A
connections possibility max. 2,5 mm²

Important!

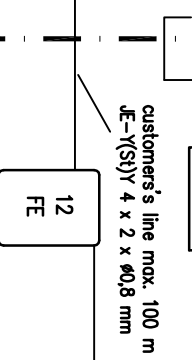
All electric cables inside the sauna have to be silicone coated!
In case of external control unit, junction boxes have to be installed close to the sauna cabin for the transition of NYM-cables to silicon cables.
In order to determine the cable cross-section, cable length and ambient temperature (acc. to VDE 0100 part 430 and 523) have to be respected.
Ambient temperature plant room 0°C - 40°C.
Air humidity max. 80 % RH.
If the control unit is not installed within visual range of the cabin door, standard EN 60335 (requirements for telecontrol) has to be respected.

Installation diagram		Sanarium S with Bonotherm		KLAFS		Sanarium		control unit 18033	
Datum	6.5.2010	Bearb.	Vherr	Erich-Klafs-Str. 1-3 74523 Schwäbisch Hall		Sanarium		control unit 18033	
Änderung		Datum		Ers.f.		Sanarium		control unit 18033	
		Name		Ers.d.		Sanarium		control unit 18033	
Index		Norm		Ers.f.		Sanarium		control unit 18033	
1				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
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				Ers.d.		Sanarium		control unit 18033	
				Ers.f.		Sanarium		control unit 18033	
				Ers.d.		Sanarium			

Installation diagram for Klafs-Sanarium-Technik
modell "S" with Majus



- Legend:
- 1 = Heating unit
 - 2 = Light
 - 3 = Temperature sensor temp/STB
height = 0.10 m below sauna ceiling (middle of the housing)
The limiter unit is mounted at 2.10 m when the sauna is higher than 2.20 m.
 - 4 = Temperature sensor Temp
height = 0.15 m below sauna ceiling (middle of the housing),
The limiter unit is mounted at 2.10 m when the sauna is higher than 2.25 m.
 - 5 = Moisture sensor with speaker
height = 1.38 m top edge housing above finished floor
Min. distance from steam inlet: 1 m!
 - 6 = SoundPUR with time – and temp. display
and integrated IR-acceptor of remote control
 - 7 = Thermometer
height = 0.15 m below sauna ceiling (middle of the housing)
 - 8 = Fan / electrical flap valve 230 V (option)
 - 9 = Control unit 18033
Height 1.65 m above finished floor level (centre of display).
 - 10 = Evaporator – type EL2 4
 - 11 = touch-sensitive safety switch (SKS) (option)
 - 12 = Remote Control (option)
 - 13 = Steam inlet port
 - 19 = IMES-1 (option)
 - 20 = KEYGUARD (option)
 - 22 = Green-button (option)



12 FE

Option: Customer's building control

Option: Customer's building control data line 5 x 2 x 0,5 mm²

19 IMES-1
Supply line 1/N/PE ~ 230 V
over FI I_{ΔN} ≤ 0,03 A
fuse protection B 16 A

Supply line 3/N/PE ~ 400 V
over FI I_{ΔN} ≤ 0,03 A
fuse protection B 16 A
connections possibility max. 2,5 mm²

touch-sensitive safety switch (SKS) 3x1,5 mm²

heating unit 5x2,5 mm²

green-button 3x1,5 mm²

moisture sensor 4 x 2 x 0,8 mm

SoundPUR 4 x 2 x 0,8 mm

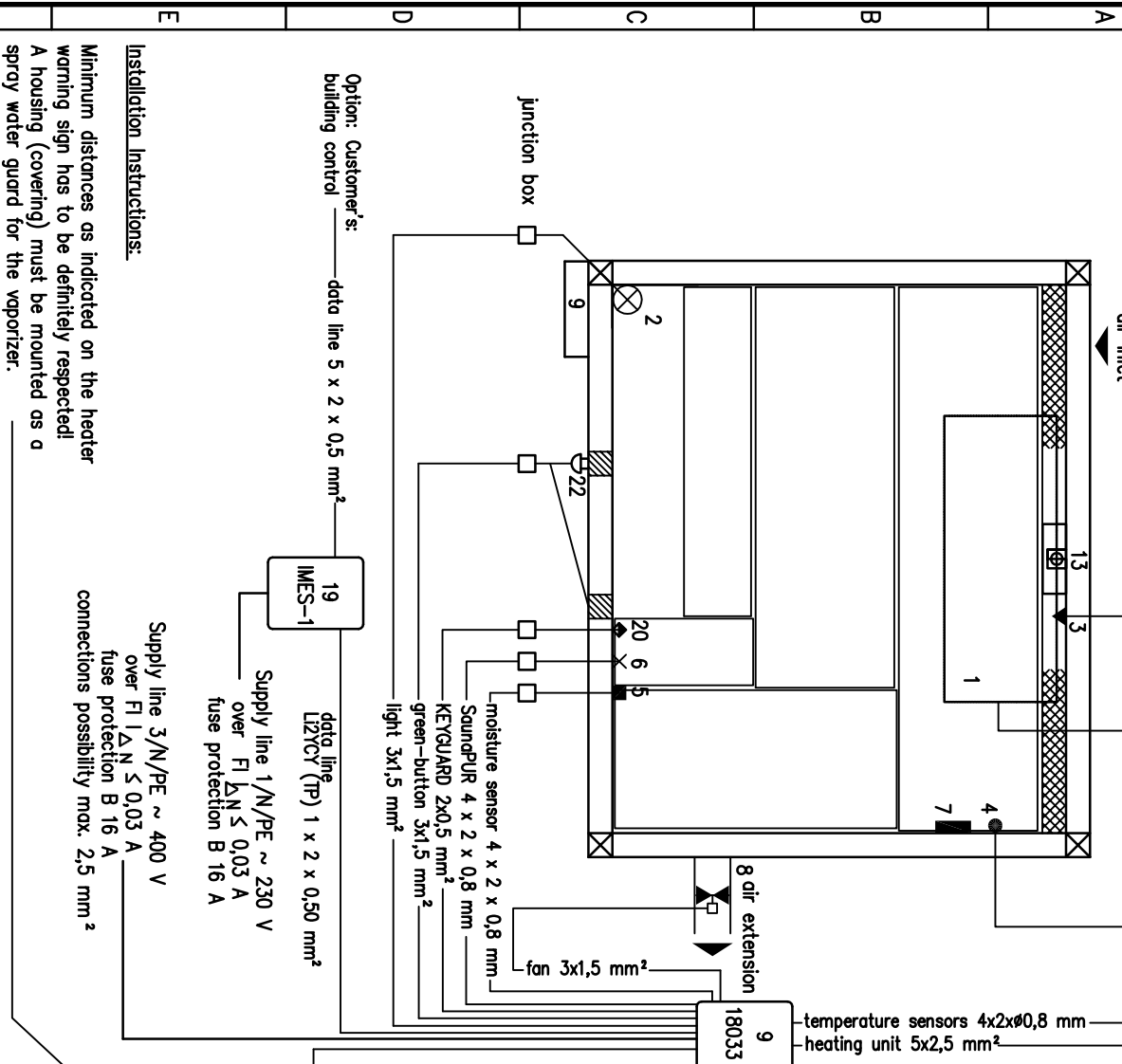
KEYGUARD 2x0,5 mm²

data line L12YCY (TP) 1 x 2 x 0,50 mm²

Installation instructions:
Minimum distances as indicated on the heater warning sign has to be definitely respected!
A housing (covering) must be mounted as a spray water guard for the vaporizer.

Important!
All electric cables inside the sauna have to be silicone coated!
In case of external control unit, junction boxes have to be installed close to the sauna cabin for the transition of NVM-cables to silicon cables.
In order to determine the cable cross-section, cable length and ambient temperature (acc. to VDE 0100 part 430 and 523) have to be respected.
Ambient temperature plant room 0°C – 40°C.
Air humidity max. 80 % RH.
If the control unit is not installed within visual range of the cabin door, standard EN 60335 (requirements for telecontrol) has to be respected.

Datum		6.5.2010		Installation diagram		KLAFFS		Sanarium		control unit 18033	
Bearb.		Vherr		Sanarium S with Majus		Erich-Klafs-Str. 1-3 74523 Schwäbisch Hall		Ers.f.		=	
Gepr.				Ers.f.		74523 Schwäbisch Hall		Ers.d.		5070222	
Änderung		Datum		Name		Norm		Ers.f.		Blatt 10	
1		2		3		4		5		8	
von 12 Bl											



- Legend:
- 1 = Heating unit
 - 2 = Light
 - 3 = Temperature sensor temp/STB height = 0,10 m below grille hot air canal centric above heating unit (middle of the housing)
 - 4 = Temperature sensor Temp height = 0,15 m below sauna ceiling (middle of the housing), The limiter unit is mounted at 2,10 m when the sauna is higher than 2,25 m.
 - 5 = Moisture sensor with speaker height = 1,38 m top edge housing above finished floor Min. distance from steam inlet: 1 m!
 - 6 = Saunapur with time – and temp. display and integrated IR-acceptor of remote control
 - 7 = Thermometer height = 0,15 m below sauna ceiling (middle of the housing)
 - 8 = Fan / electrical flap valve 230 V (option)
 - 9 = Control unit 18033
 - 10 = Height 1,65 m above finished floor level (centre of display). Evaporator – EL2 4
 - 11 = touch-sensitive safety switch (SKS) (option)
 - 12 = Remote Control (option)
 - 13 = Steam inlet port
 - 19 = IMES-1 (option)
 - 20 = KEYGUARD (option)
 - 22 = Green-button (option)

Option: Customer's building control data line 5 x 2 x 0,5 mm²

19 IMES-1

Supply line 1/N/PE ~ 230 V over FI ΔN ≤ 0,03 A fuse protection B 16 A

Supply line 3/N/PE ~ 400 V over FI ΔN ≤ 0,03 A fuse protection B 16 A connections possibility max. 2,5 mm²

Installation Instructions:

Minimum distances as indicated on the heater warning sign has to be definitely respected!
A housing (covering) must be mounted as a spray water guard for the vaporizer.

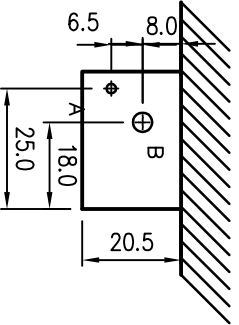
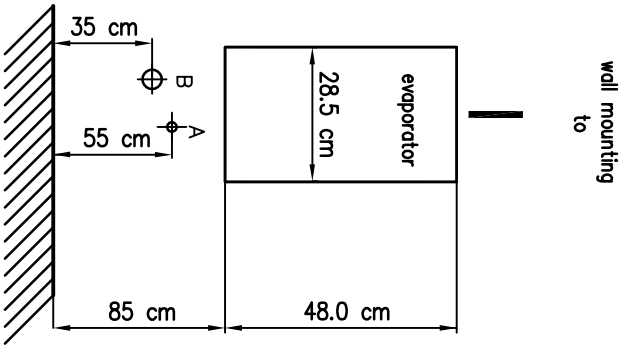
customer's line max. 100 m JE-Y(S)Y 4 x 2 x Ø0,8 mm

12 FE

Option: Customer's building control

Important!
All electric cables inside the sauna have to be silicone coated!
In case of external control unit, junction boxes have to be installed close to the sauna cabin for the transition of NYM-cables to silicon cables.
In order to determine the cable cross-section, cable length and ambient temperature (acc. to VDE 0100 part 430 and 523) have to be respected.
Ambient temperature plant room 0°C – 40°C.
Air humidity max. 80 % RH.
If the control unit is not installed within visual range of the cabin door, standard EN 60335 (requirements for telecontrol) has to be respected.

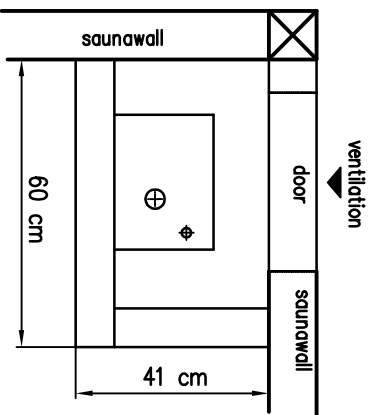
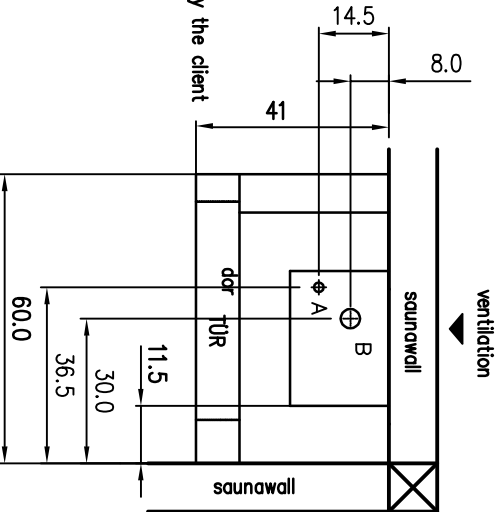
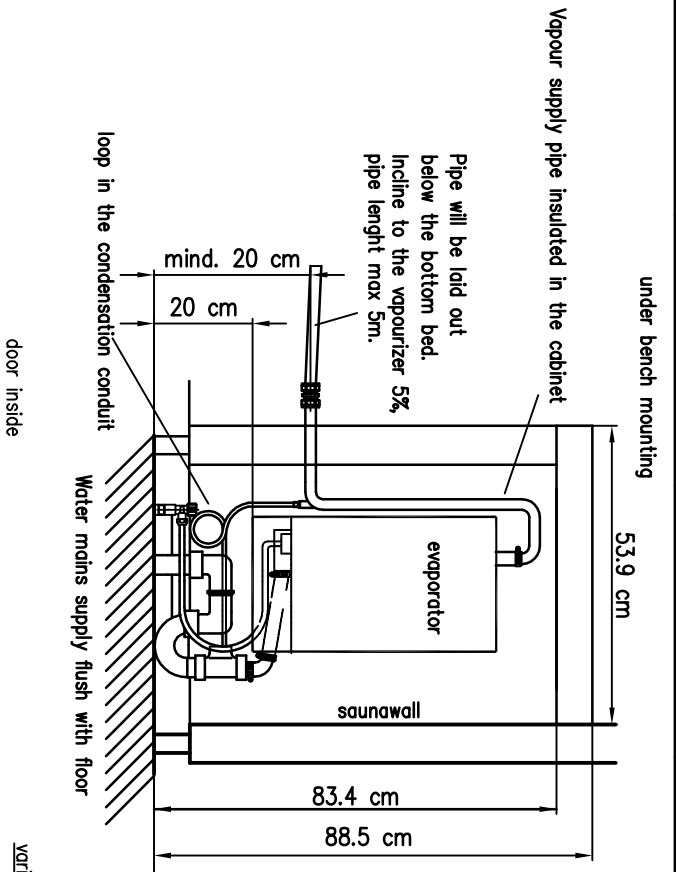
Datum		6.5.2010		Installation diagram		KLAFS		Sanarium		control unit 18033	
Bearb.		Vherr		Sanarium S with Bonotherm		Erich-Klafs-Str. 1-3 74523 Schwäbisch Hall				+	
Gepr.				Ers.f.		74523 Schwäbisch Hall				50701222	
Änderung		Datum		Name		Norm		Ers.d.		Blatt 11 von 12 Bl	
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7		8									



A Water feed line R 1/2" cold, with angle valve to be provided by the client
B Drainage NW 40

Assembly information:

Evaporator must be spatially separated from the sauna room, or a housing (covering) must be installed as spray water guard.



Datum		6.5.2010		Installation diagram		KLAFFS		Sanarium		control unit 18033	
Bearb.		Vherr		evaporator		Erich-Klafs-Str. 1-3 74523 Schwäbisch Hall				=	
Gepr.				Urspr.		Ers.f.				50701222	
Name		Norm		Ers.d.						Blatt 12 von 12 Bl	
Änderung	Datum										
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