



Providing sustainable energy solutions worldwide

Installation- and maintenance instruction

CTC 950

Wall mounted oil-/gas-fired unit



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Installation and maintenance

CTC 950

Wall mounted oil-/gas-fired unit



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01. TECHNICAL DATA

1.1 General description

The CTC 950 is a wall mounted oil fired unit. CTC 950 is delivered with expansion vessel, circulation pump, oil burner, instrument panel and safety valve.

CTC 950 combines small dimensions, easy maintenance, extremely low noise level and high efficiency.

CTC Quality :

Made in Sweden: The main task of the CTC engineers has always been and will be to combine Swedish steel quality and innovative techniques of thermic exchange in order to ensure highest efficiency and long life and at the same time respecting nature and environment

Modern design:

The new compact design of the oil wall-mounted unit - CTC 950 - is a new innovative development which satisfies the needs of present and future markets in every aspect. The simple and attractive casing conceals a complete central heating system.

Compact air/flue-gas system :

The new CTC 950 wall-mounted boiler unit can be used as preferred for operation that is dependent on or independent of the room air.

The CTC LAS system is made of high-grade INOX stainless steel and can be used with advantage for the concentric connection of the air supply and flue gas duct in houses without a conventional chimney.

The supply air connection can also be made using a separate connecting piece.

If the house already has a chimney, this can continue to be used with the CTC LAS system. The CTC 950 wall-mounted boiler unit is available in several models. It can be equipped at the factory with the preferred burners.

1.2 Technical data CTC 950

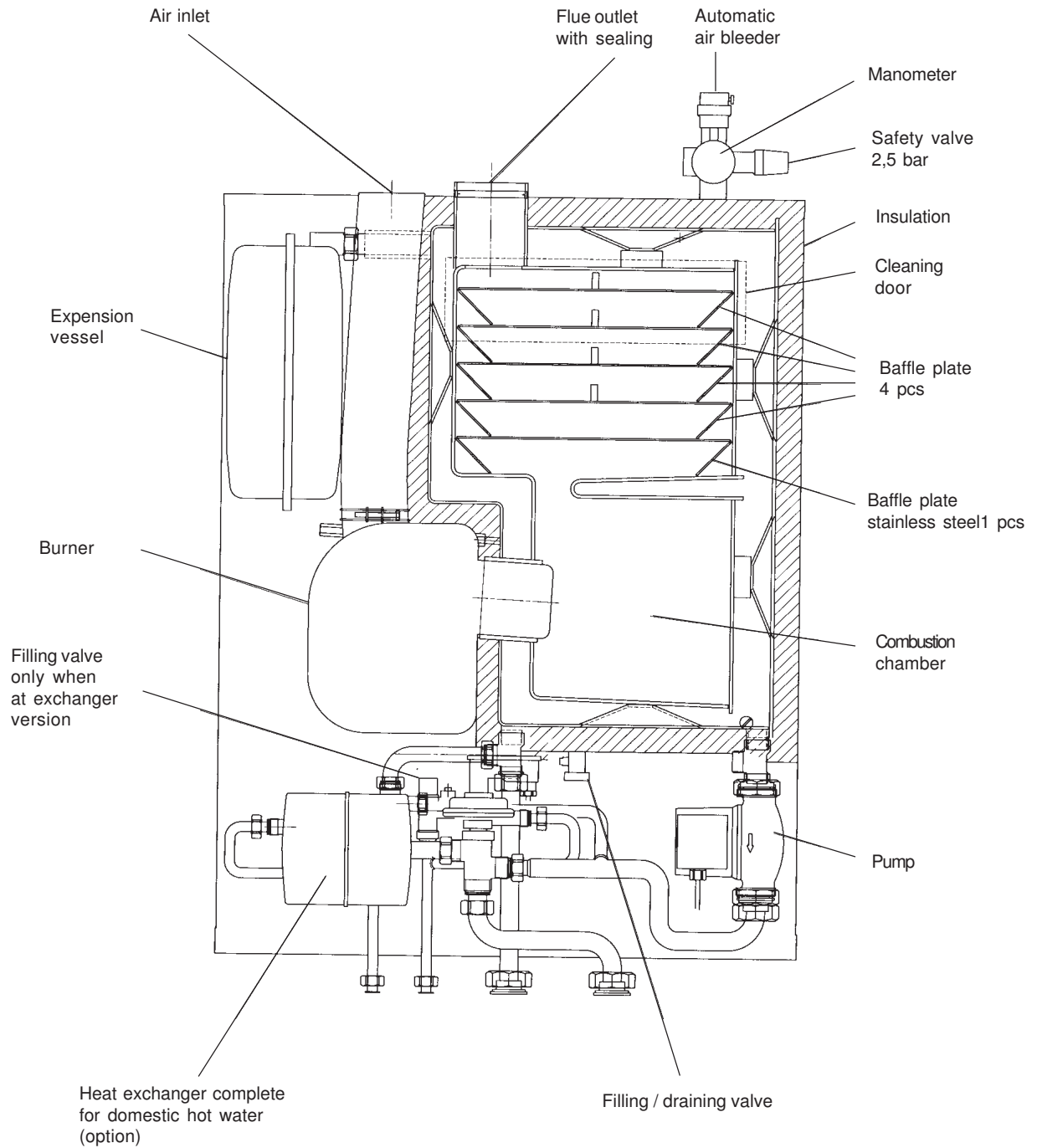
Output	kW	23,3
Input	kW	25,5
Weight	kg	112
Boiler efficiency	%	91,5
Water content	l	23
Flue gas outlet	ø	82 mm int.
Air inlet	ø	80 mm
Heating flow	G	3/4"
Heating return	G	3/4"
Expansion vessel	l	10
Max working pressure	bar	3
Test pressure (in production)	bar	4,3
Safety valve	bar	2,5
Boiler water resistance	$\Delta T 20^\circ$	20 mbar

Option: Heat exchanger	
Hot water capacity 10-45°C	l/min 9,3

Option: Hot water tank	
Hot water capacity 10-45°C	l/h 620
	l/10 min 250

01. TECHNICAL DATA

1.3 Construction

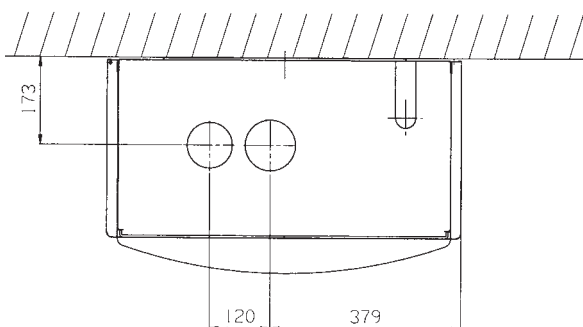
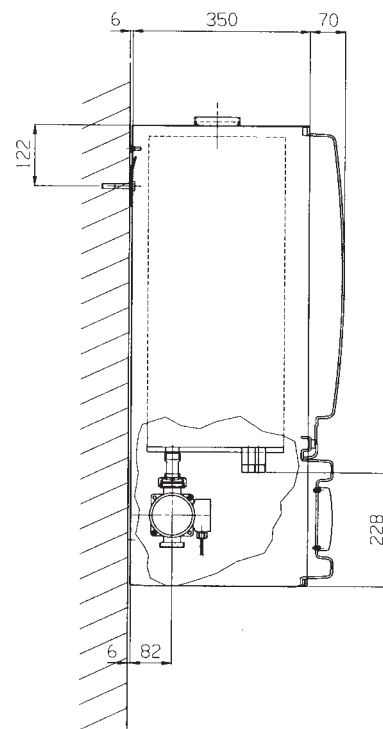
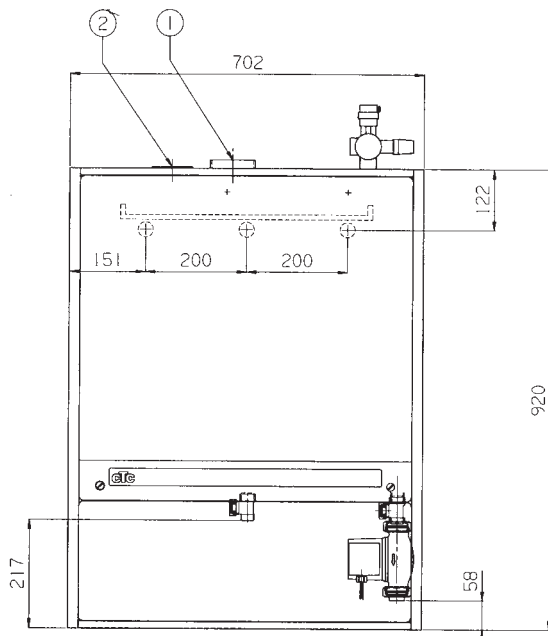
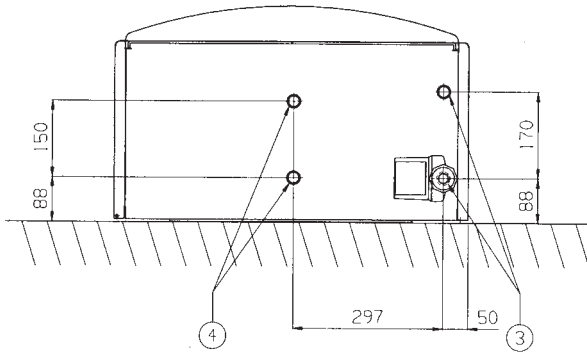


02. INSTALLATION

2.1. CTC 950 with one heating circuit without hot water.

- Electrical diagram D-580070

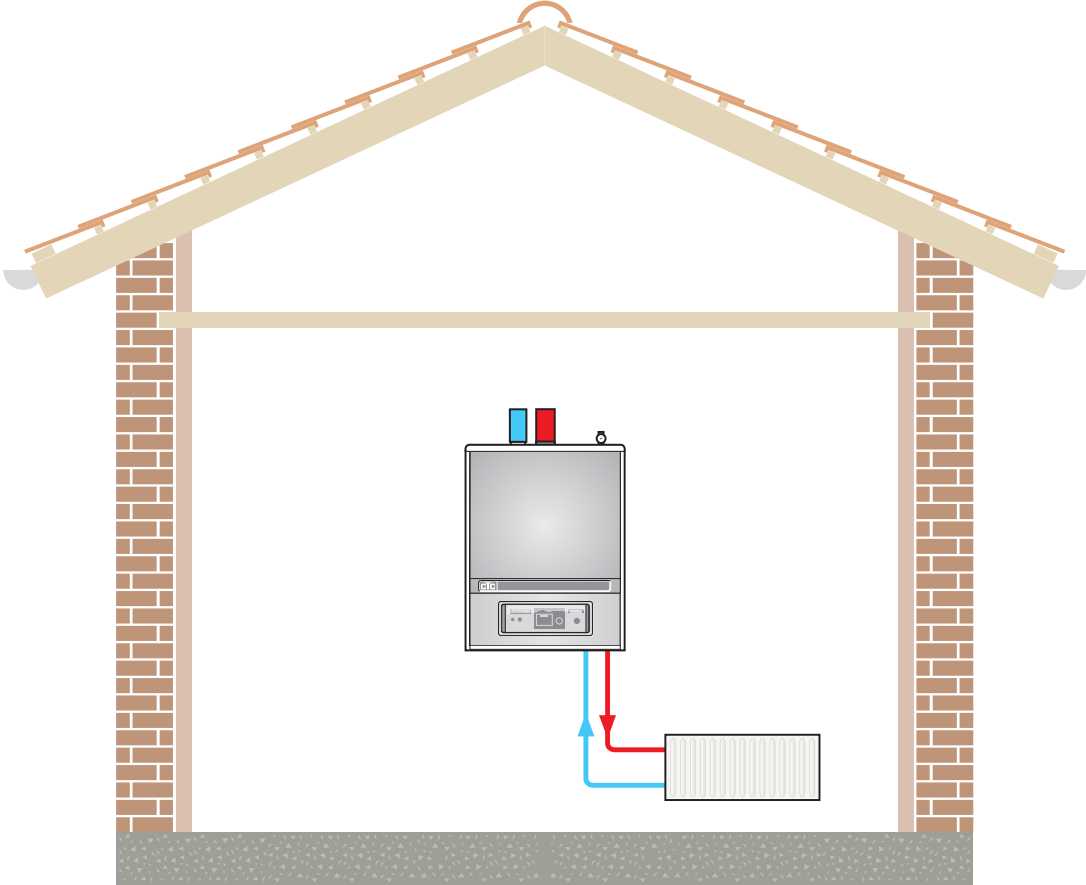
Dimensions



1. Flue outlet diam 82 mm internal with high temp sealing diam 80 mm
2. Air inlet hose diam 80 mm internal
3. Flow G 3/4" internal/external
4. Return G 3/4" external

02. INSTALLATION

2.1. CTC 950 with one heating circuit without hot water

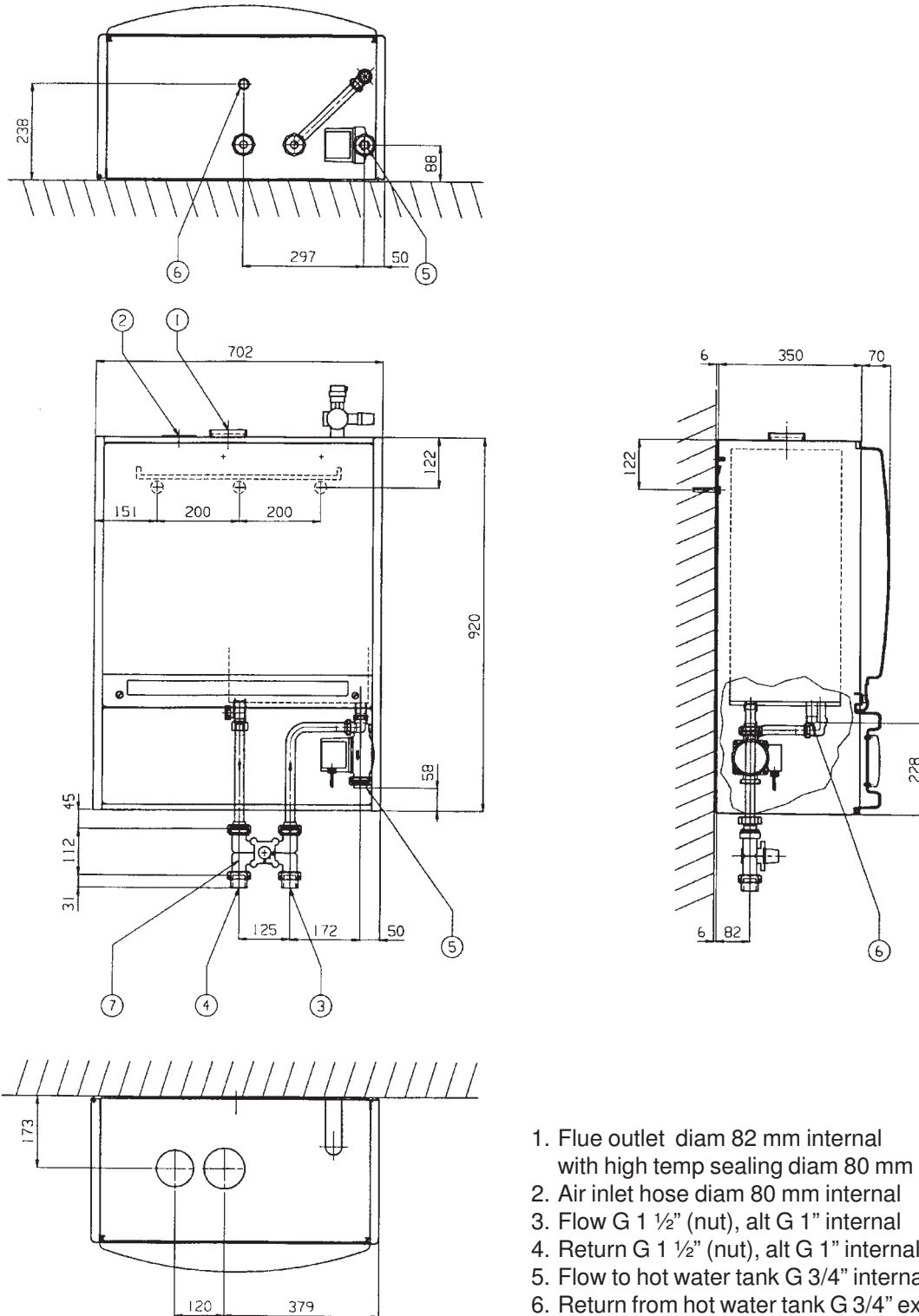


02. INSTALLATION

2.2 CTC 950 with hot water tank and one heating circuit

- Pipe kit (P/N 579990301) 1-circuit, assembly instr. see chapter 06.
- Mixing valve (P/N 912912401)
- Electrical diagram D-580097.

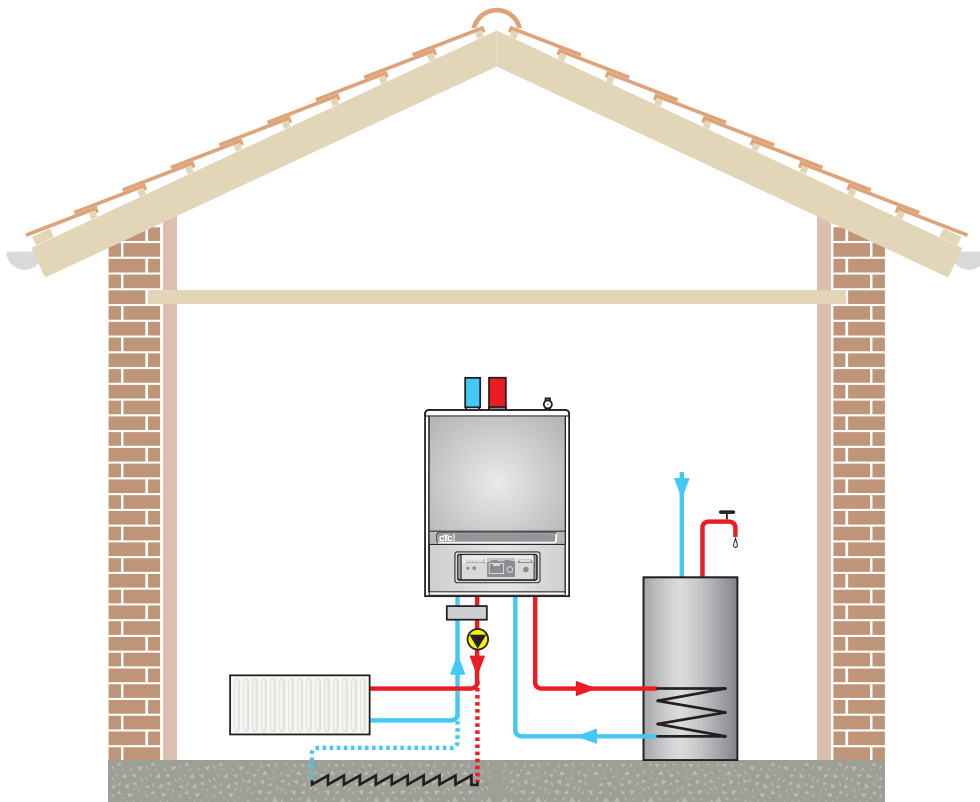
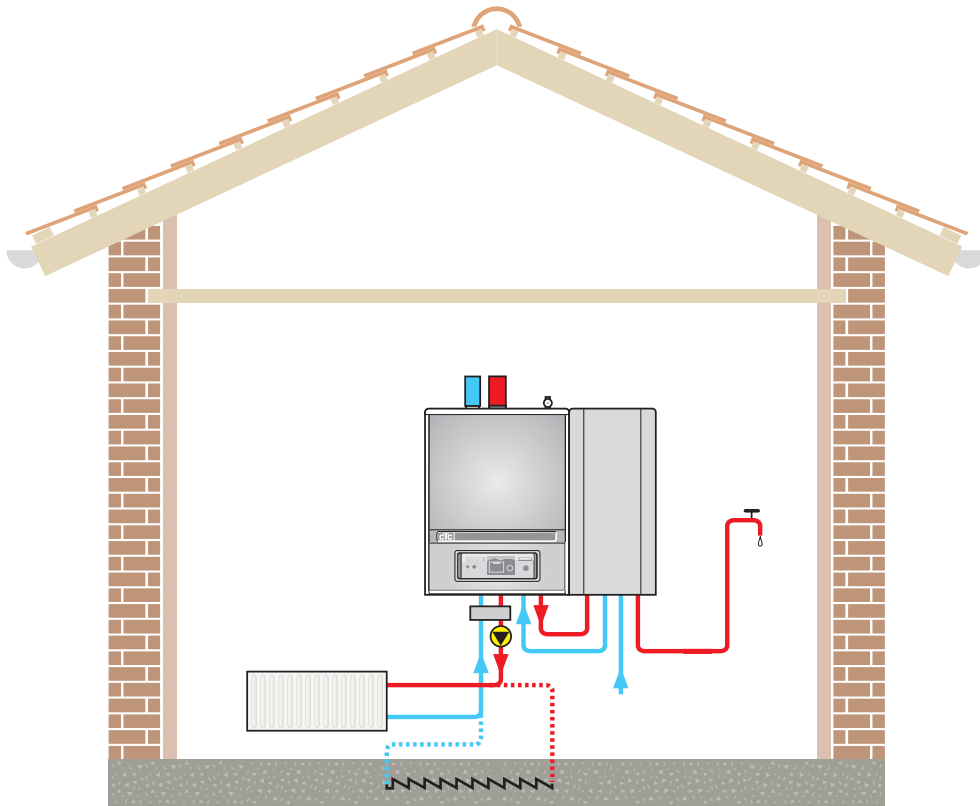
Dimensions



1. Flue outlet diam 82 mm internal with high temp sealing diam 80 mm
2. Air inlet hose diam 80 mm internal
3. Flow G 1 1/2" (nut), alt G 1" internal
4. Return G 1 1/2" (nut), alt G 1" internal
5. Flow to hot water tank G 3/4" internal
6. Return from hot water tank G 3/4" external
7. Mixing valve

02. INSTALLATION

Examples CTC 950 with hot water tank and one heating circuit

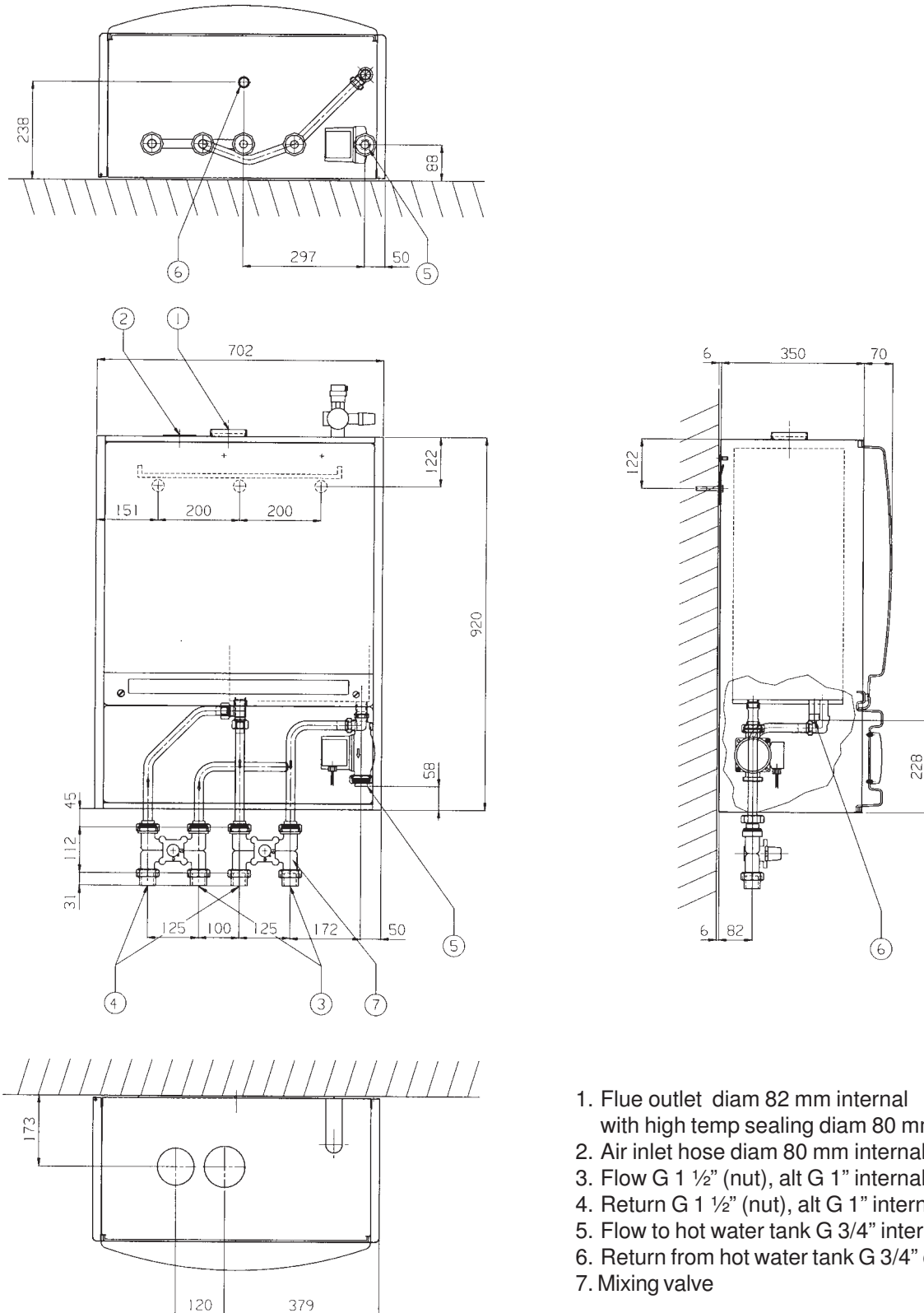


02. INSTALLATION

2.3 CTC 950 with hot water tank and two heating circuits

- 2-circuit pipe kit (P/N 580035301), assembly instr. see chapter 06
- Mixing valve (P/N 912912401)
- Electrical diagram D-580097

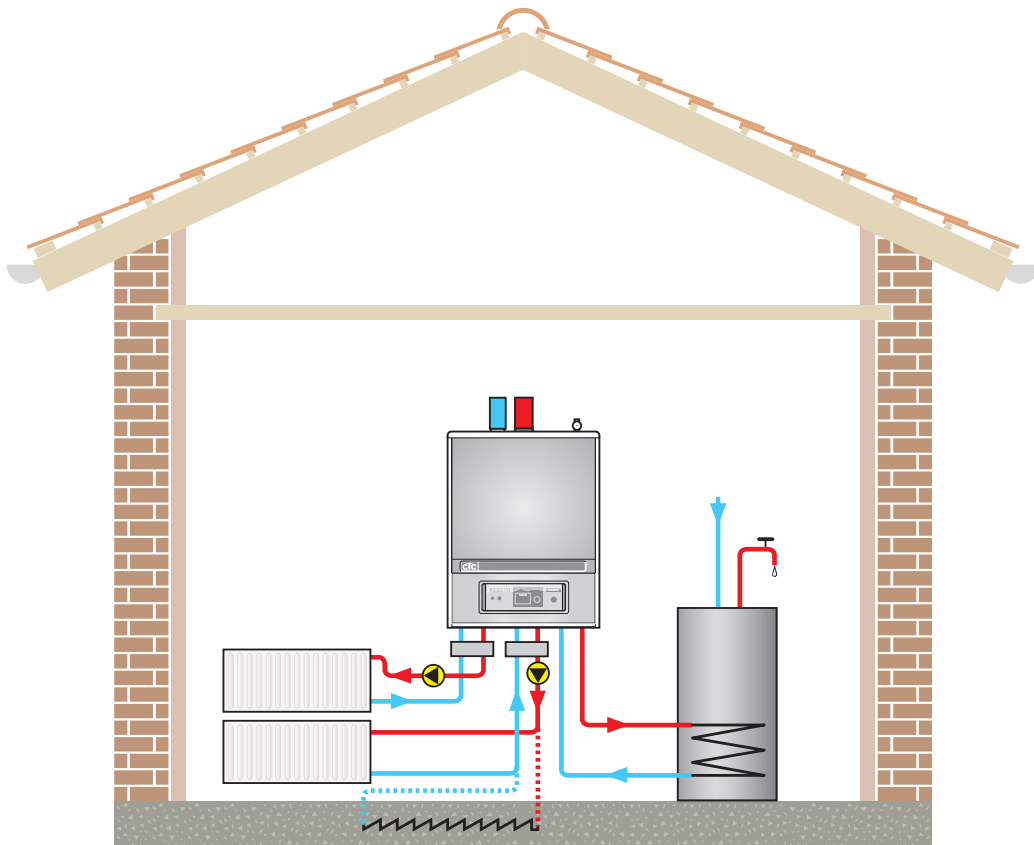
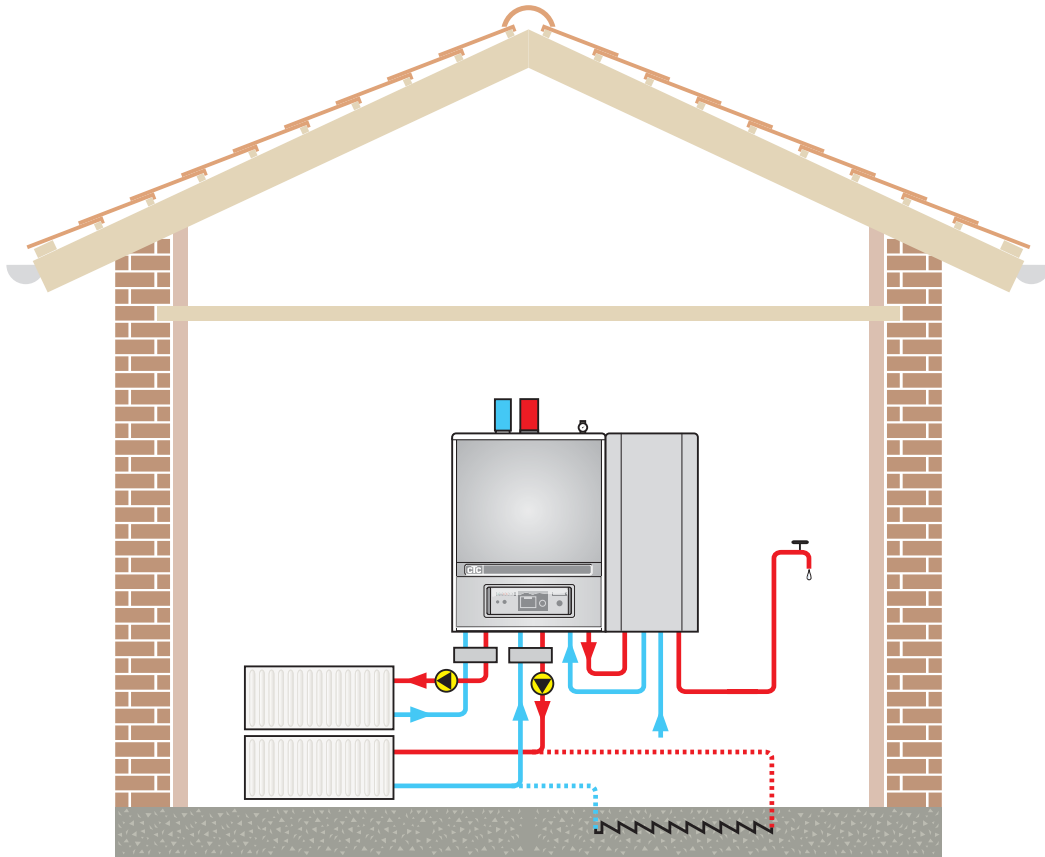
Dimensions



1. Flue outlet diam 82 mm internal
with high temp sealing diam 80 mm
2. Air inlet hose diam 80 mm internal
3. Flow G 1 1/2" (nut), alt G 1" internal
4. Return G 1 1/2" (nut), alt G 1" internal
5. Flow to hot water tank G 3/4" internal
6. Return from hot water tank G 3/4" external
7. Mixing valve

02. INSTALLATION

Examples CTC 950 with hot water tank and two heating circuits

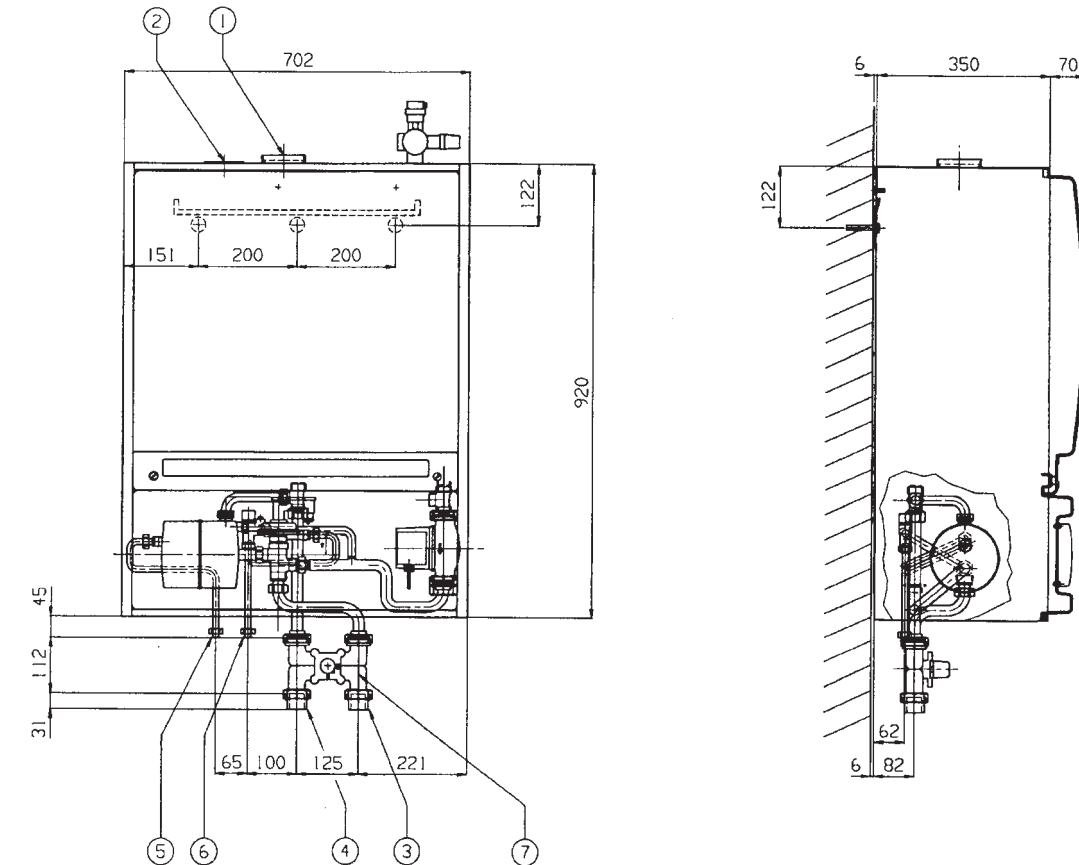


02. INSTALLATION

2.4 CTC 950 with heat exchanger and one heating circuit

- Heat exchanger cpl (579970301)
- Mixing valve (912912401)
- Hot water priority relay (580166402)
- Electrical connection acc. to:
 - with mixing valve and DHW priority relay: electrical diagram (D-580098)
 - without mixing valve and DHW priority relay: electrical diagram (D-580070)
- Assembly instruction heat exchanger cpl, see chapter 07.

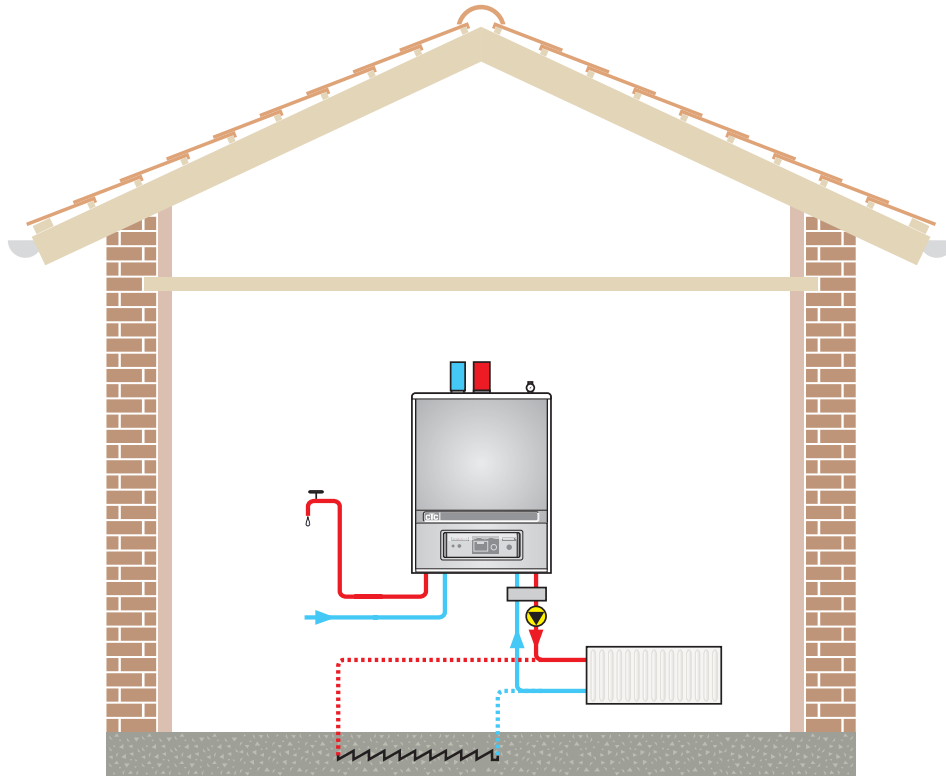
Dimensions



1. Flue outlet diam 82 mm internal with high temp sealing diam 80 mm
2. Air inlet hose diam 80 mm internal
3. Flow G 1 1/2" (nut), alt G 1" internal
4. Return G 1 1/2" (nut), alt G 1" internal
5. Hot water G 1/2" internal
6. Cold water G 1/2" internal
7. Mixing valve

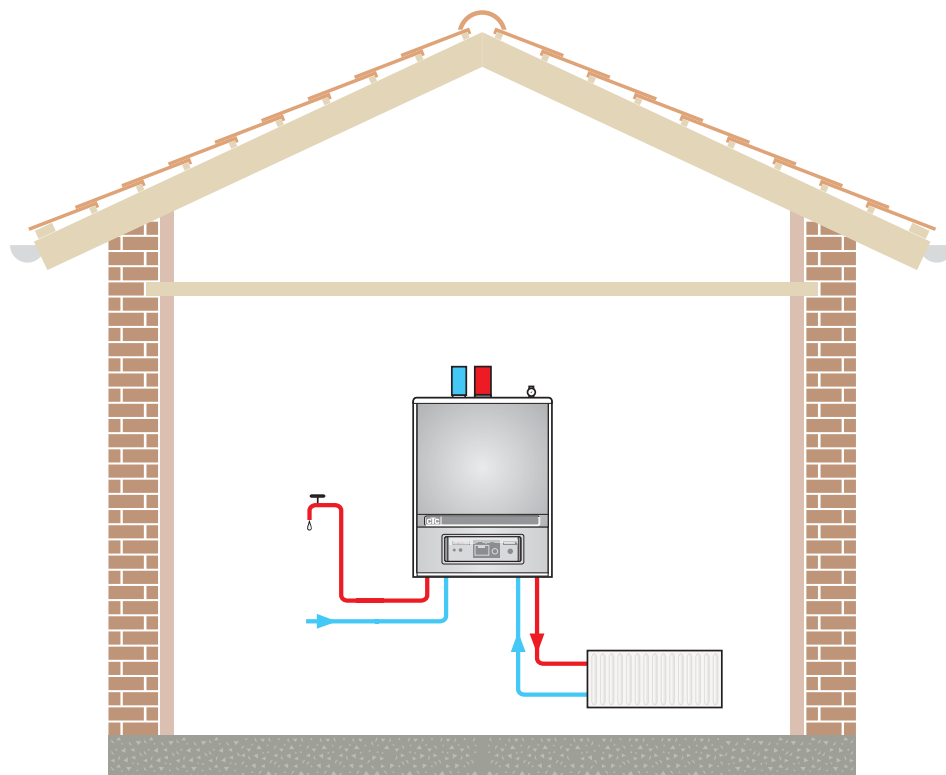
02. INSTALLATION

2.4 Examples CTC 950 with heat exchanger and one heating circuit



With mixing valve.

Note: DHW priority relay (580166402) must be installed



Without mixing valve.

03. ELECTRICAL INSTALLATION

3.1 General information

The electrical installation must be made according to current regulations. In particular, there must be a proper connection to an efficient ground system

Check

Have the electrical installation and system checked by professionally qualified electricians, who certify that the electrical installations correspond to current regulations.

Two pole switch

A two-pole switch with a gap between contacts of at least 3mm must be installed upstream from the boiler.

Power supply cable

When connecting the power supply cable to the connection terminal board, make sure that the ground cable is longer than the line and the neutral cable, so that if the cable is jerked off, the ground cable will be the last one to disconnect.

Fuse

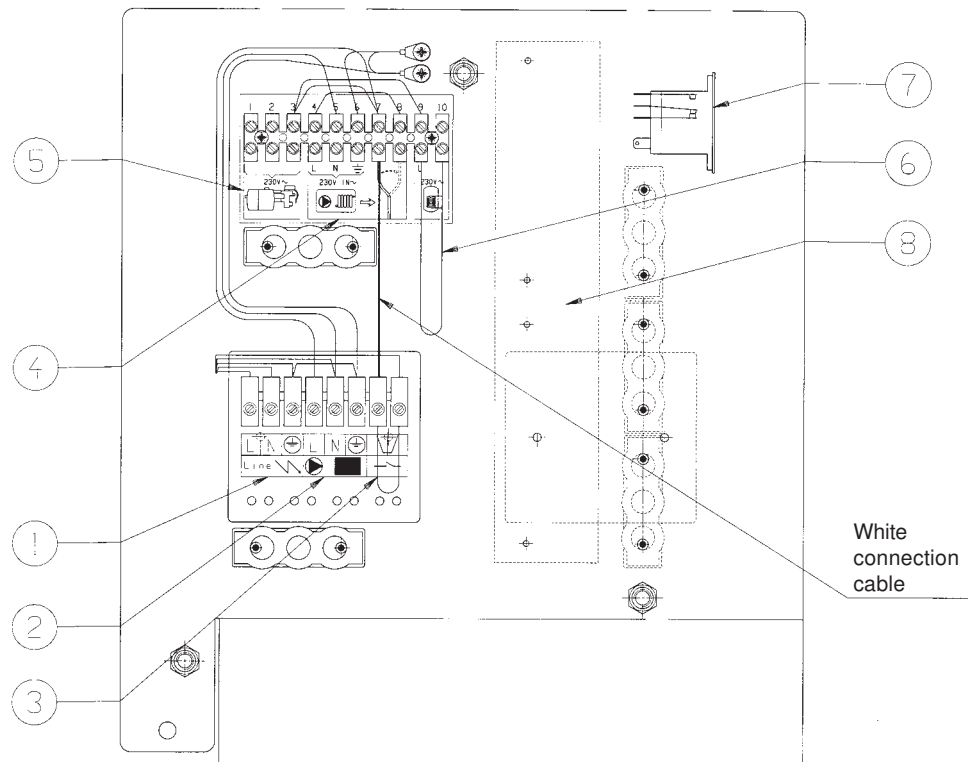
A fuse (6,3A) is placed on the control panel.

Circulation pump

If the white connection cable is placed on terminal number 7, then the built-in pump ② works as a radiator pump. That is the situation as delivered from the factory.
If the white connection cable is placed on terminal 8, the built-in pump ② works for the supply of the hot water tank. Then the radiator pump shall be connected to terminal number 4,5,6.
 Please see pictures 4 and 5 in chapter 11.

Burner

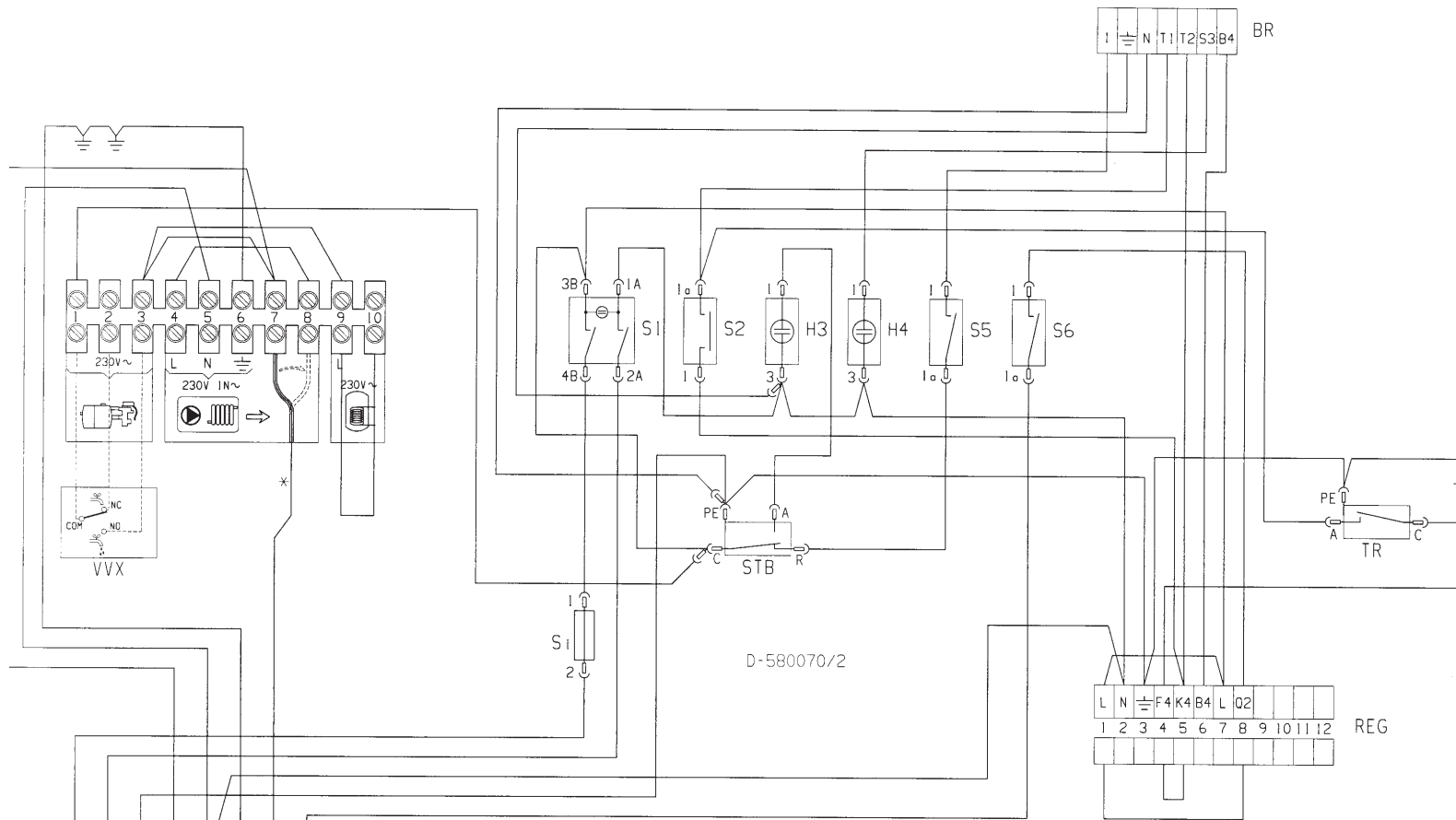
The burner is electrically connected to the terminal board from the factory.



1. Power supply 230 V
2. Pump (built-in)
3. Remote control of the pump (room thermostat)
4. Radiator pump

5. Heat exchanger for domestic hot water (optional)
6. Signal on terminal number 9 will engage pump for the hot water tank

7. Hot water priority relay (use it only when you have heat exchanger **and** mixing valve installed)
8. Place for terminal block optional heating control system

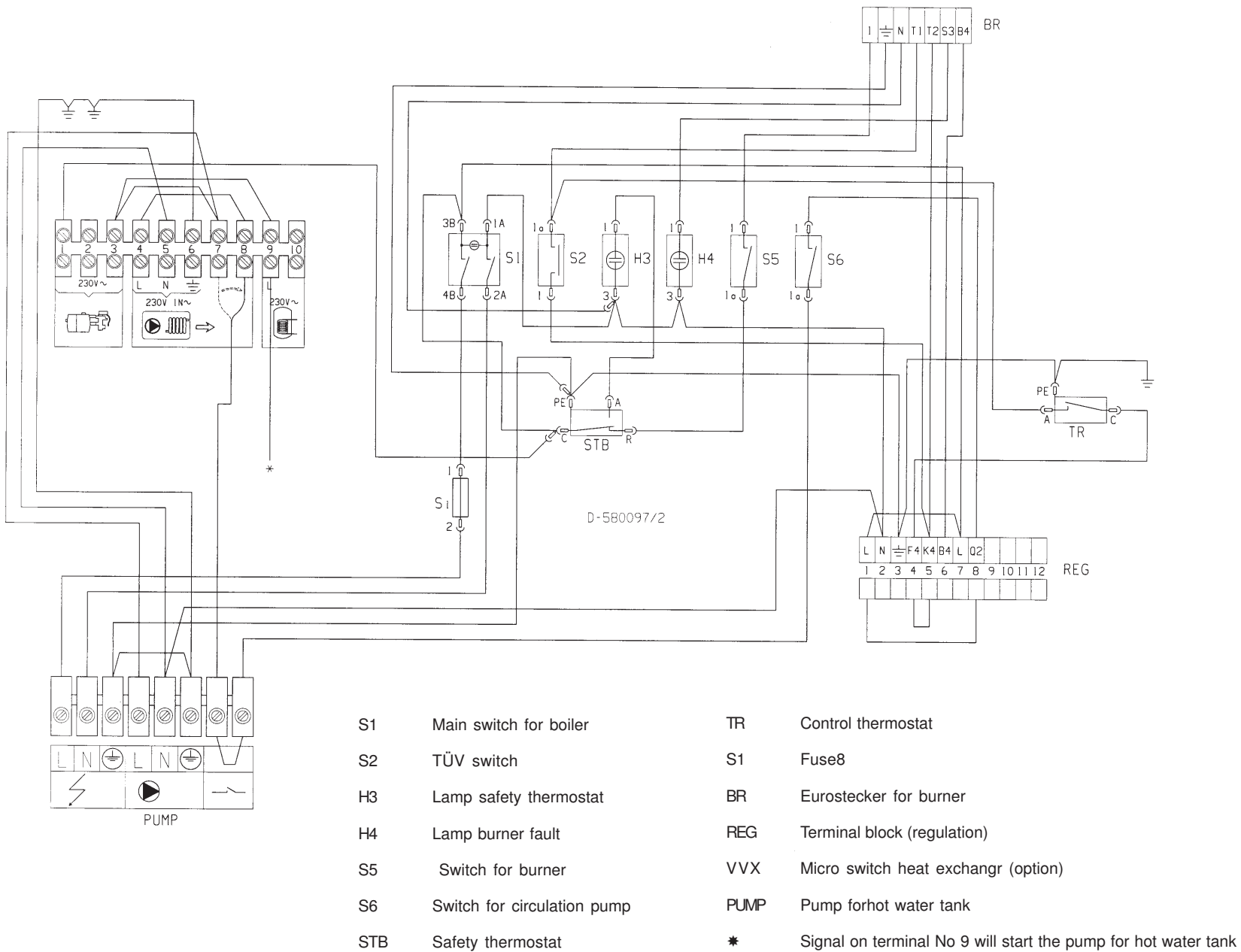


- S1 Main switch for boiler
- S2 TÜV switch
- H3 Lamp safety thermostat
- H4 Lamp burner fault
- S5 Switch for burner
- S6 Switch for circulation pump
- STB Safety thermostat

- TR Control thermostat
- Si Fuse
- BR Eurostecker for burner
- REG Terminal block (regulation)
- VVX Micro switch heat exchanger (option)
- PUMP Pump for radiator system, if cable * is on no 7.
- PUMP Pump for hot water tank, if cable * is on no 8.

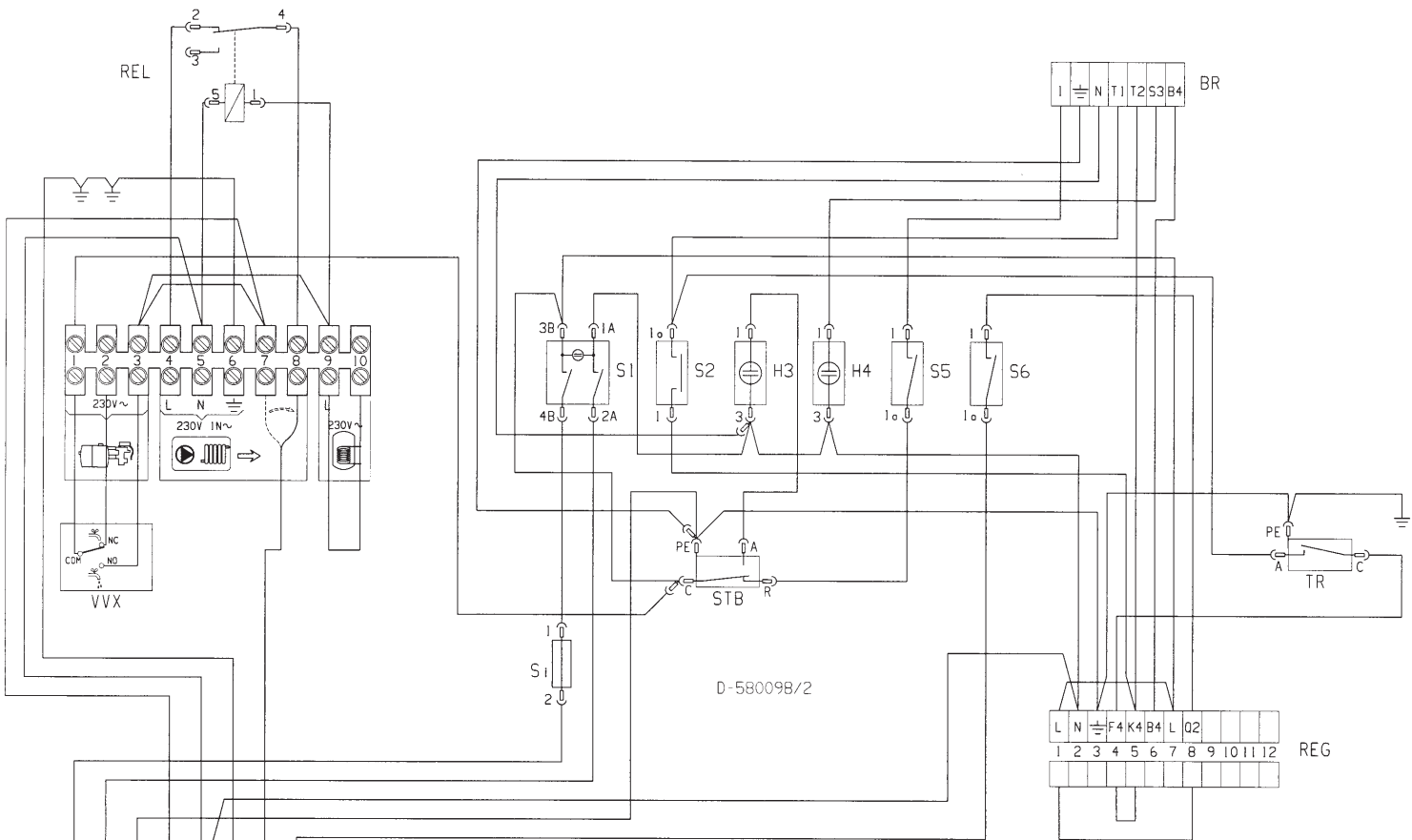
03 ELECTRICAL INSTALLATION

3.3 Electrical diagram D-580097 : CTC 950 with hot water tank and mixing valve



03 ELECTRICAL INSTALLATION

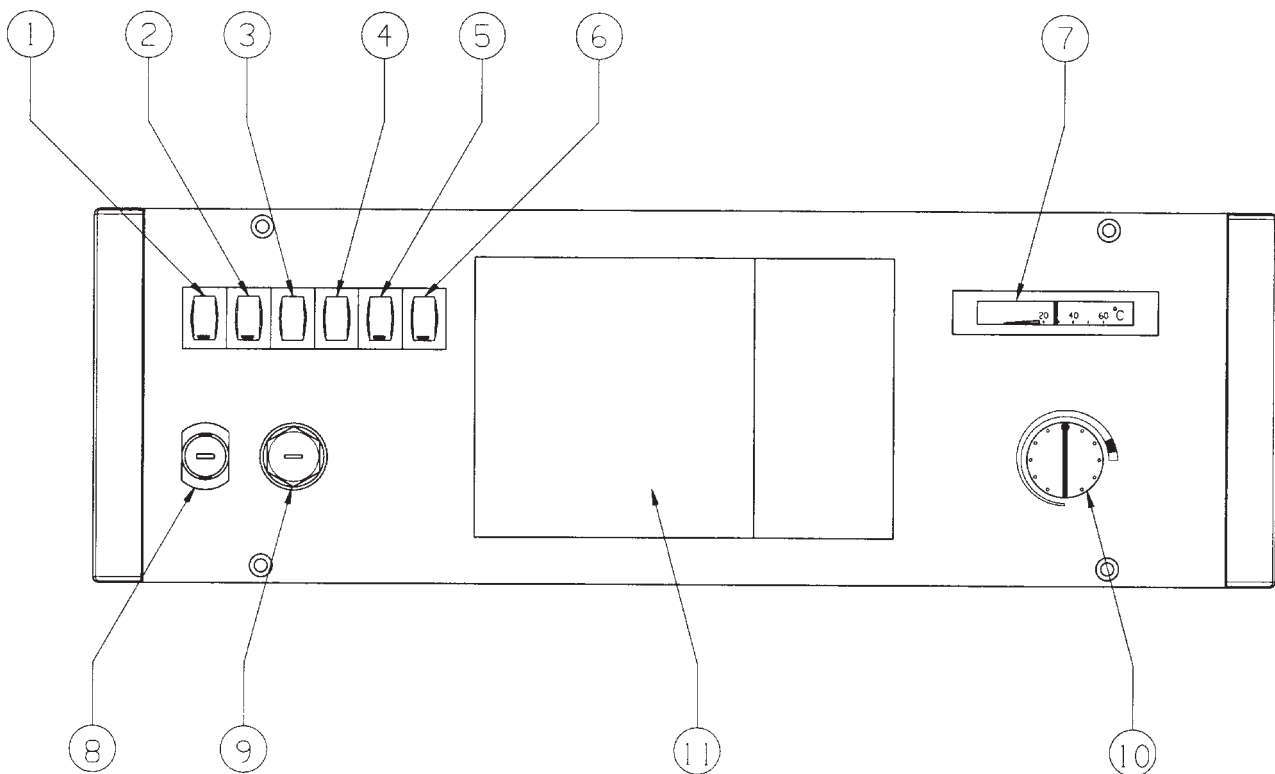
3.4 Electrical diagram D-580098: CTC 950 with heat exchanger, DHW priority relay and mixing valve



- | | | | |
|-----|-----------------------------|------|-----------------------------|
| S1 | Main switch for boiler | TR | Control thermostat |
| S2 | TÜV switch | S1 | Fuse |
| H3 | Lamp safety thermostat | BR | Eurostecker for burner |
| H4 | Lamp burner fault | REG | Terminal block (regulation) |
| S5 | Switch for burner | VVX | Micro switch heat exchanger |
| S6 | Switch for circulation pump | PUMP | Pump for heat exchanger |
| STB | Safety thermostat | | |

04. OPERATION

4.1 Control panel



1. Main switch for boiler

Connects / Disconnects the electrical power to the boiler. Indicates with green color when power is on.

2. TÜV Switch

Used by serviceman for checking the safety thermostat.

3. Indicating lamp safety thermostat

4. Indicating lamp burner fault

This lamp lights up when the burner locks out. Push the reset button on the control box at the burner, then the burner should start and the lamp goes out. If the problem still remains, contact a service man.

5. Switch burner

6. Switch circulation pump

The circulation pump for the radiator system connects and disconnects with this switch

7. Boiler thermometer

Shows the boiler water temperature

8. Fuse 6,3 A

Open the fuse holder by using a screwdriver to dismantle the top

9. Safety thermostat

The safety thermostat disconnects the electrical power if the boiler is overheated. Reset by pushing the button, which is located under the cover, when the temperature is below 65 °C .

10. Control thermostat

For adjusting the boiler water temperature. The recommended temperature is marked on the scale.

11. Space for regulation (optional)

04. OPERATION

4.2 Start-up

- Check that the boiler and radiator system are filled with water.
- Vent the boiler by opening by hand the safety valve on the top of the boiler. Make a subsequent filling of the system when needed.
- Check that all tube connections are tight and that the connections for chimney and combustion are correctly performed.
- Check that the oil pipes of the oil burner are correctly performed and that there is oil in the tank.
- Adjust the thermostat within the recommended range
- Put the main switch of the switch panel to position 1.
- Put the burner switch to position 1.
- Check that the burner starts immediately. The burner is factory set.
- Put the switch for the circulation pump into position 1.
- When the boiler and the radiator system have reached the working temperature, make a new venting through the safety valve.

05. ASSEMBLY INSTRUCTION BOILER



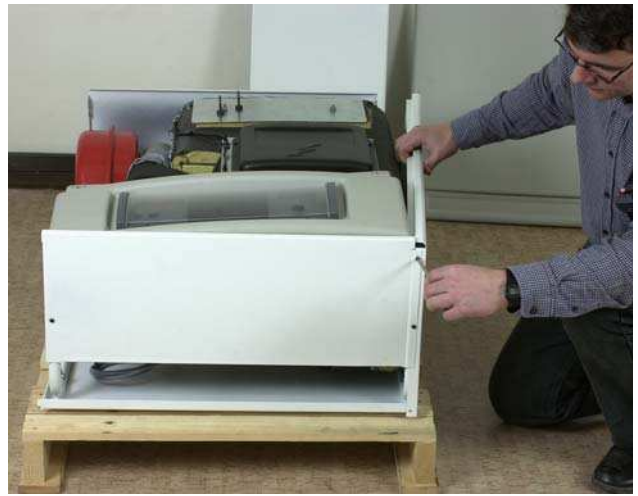
1



2



3



4



5



6

05. ASSEMBLY INSTRUCTION BOILER



7



8



9



10



11



12

06. ASSEMBLY INSTRUCTION PIPE KIT

6.1 Assembly instruction pipe kit (579990301)



1



2



3



4



5

06. ASSEMBLY INSTRUCTION PIPE KIT

6.2 Assembly instruction pipe kit (580035301)



1



2



3



4

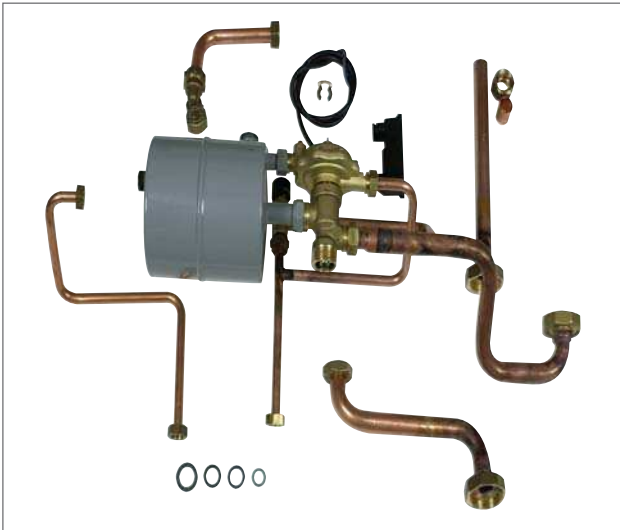


5



6

07. ASSEMBLY INSTRUCTION HEAT EXCHANGER (579970301)



1



2



3



4



5

07. ASSEMBLY INSTRUCTION HEAT EXCHANGER (579970301)



6



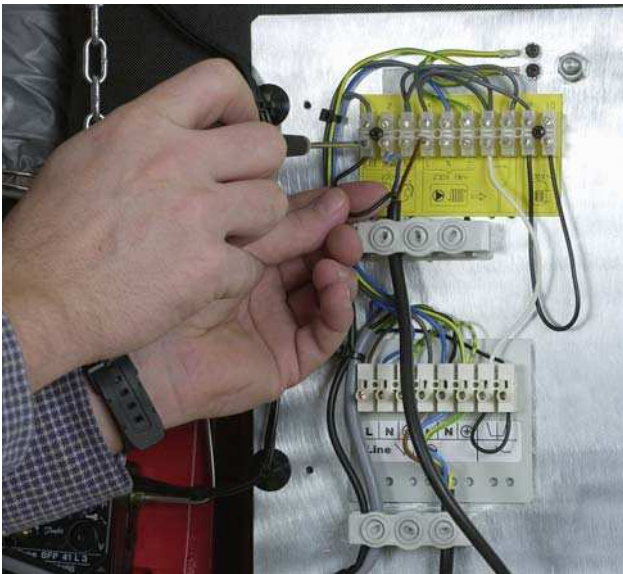
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8



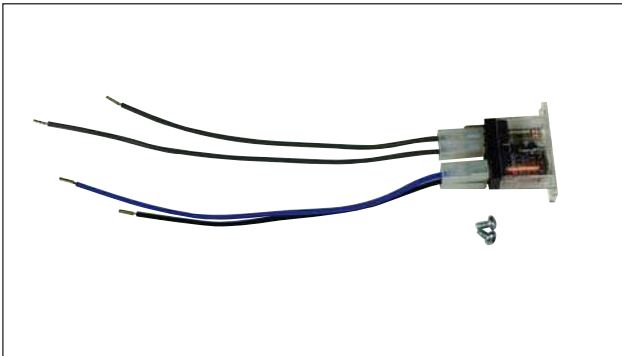
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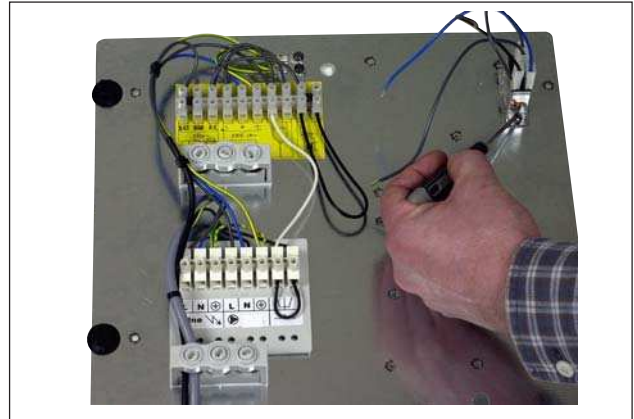
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08. ASSEMBLY INSTRUCTION HOT WATER PRIORITY RELAY (580166402)

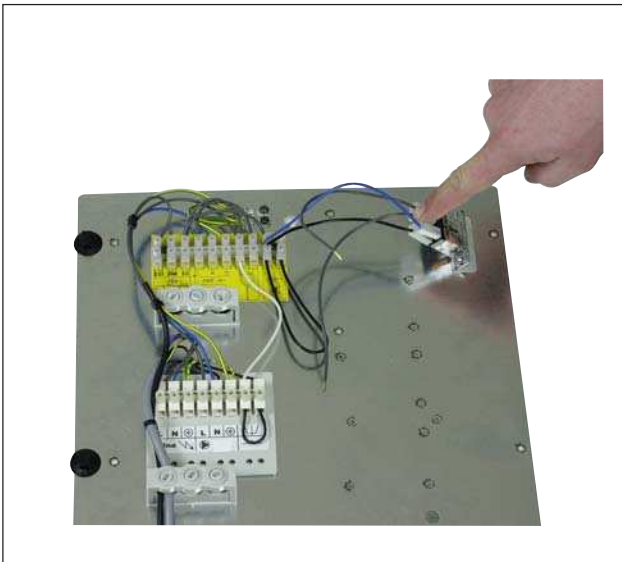
Must be used when using heat exchanger **and** mixing valve.



1



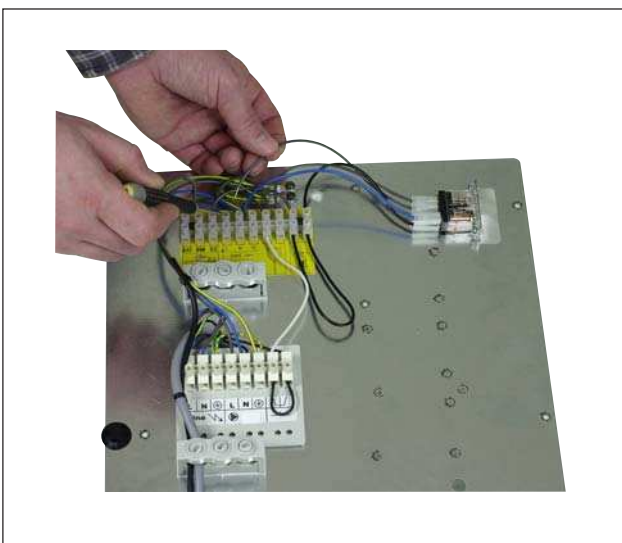
2



3



4



5

Connect acc to Electrical diagram D-580098

09. SERVICE OIL BURNER



1



2



3



4



5



6

10. SERVICE BOILER



1



2



3



4



5



6

11. SERVICE CHECK AND ELECTRICAL INSTALLATION



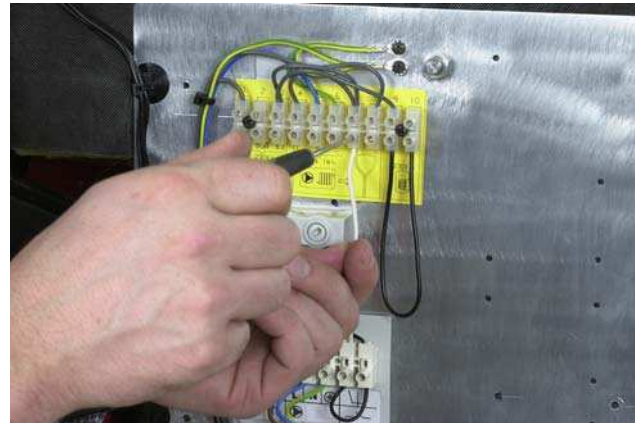
1. Turn the safety valve a few times a year to check the operation of the safety valve.



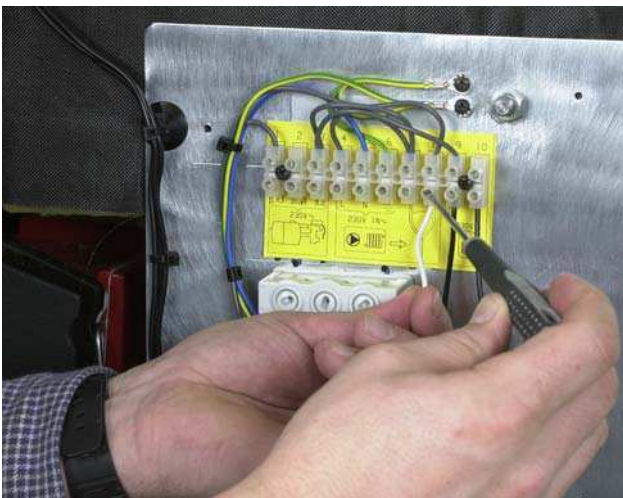
2. A space in the front part of the boiler is provided in the cleaning door to proceed to measurements.



3. Open cover to proceed to electrical installation.



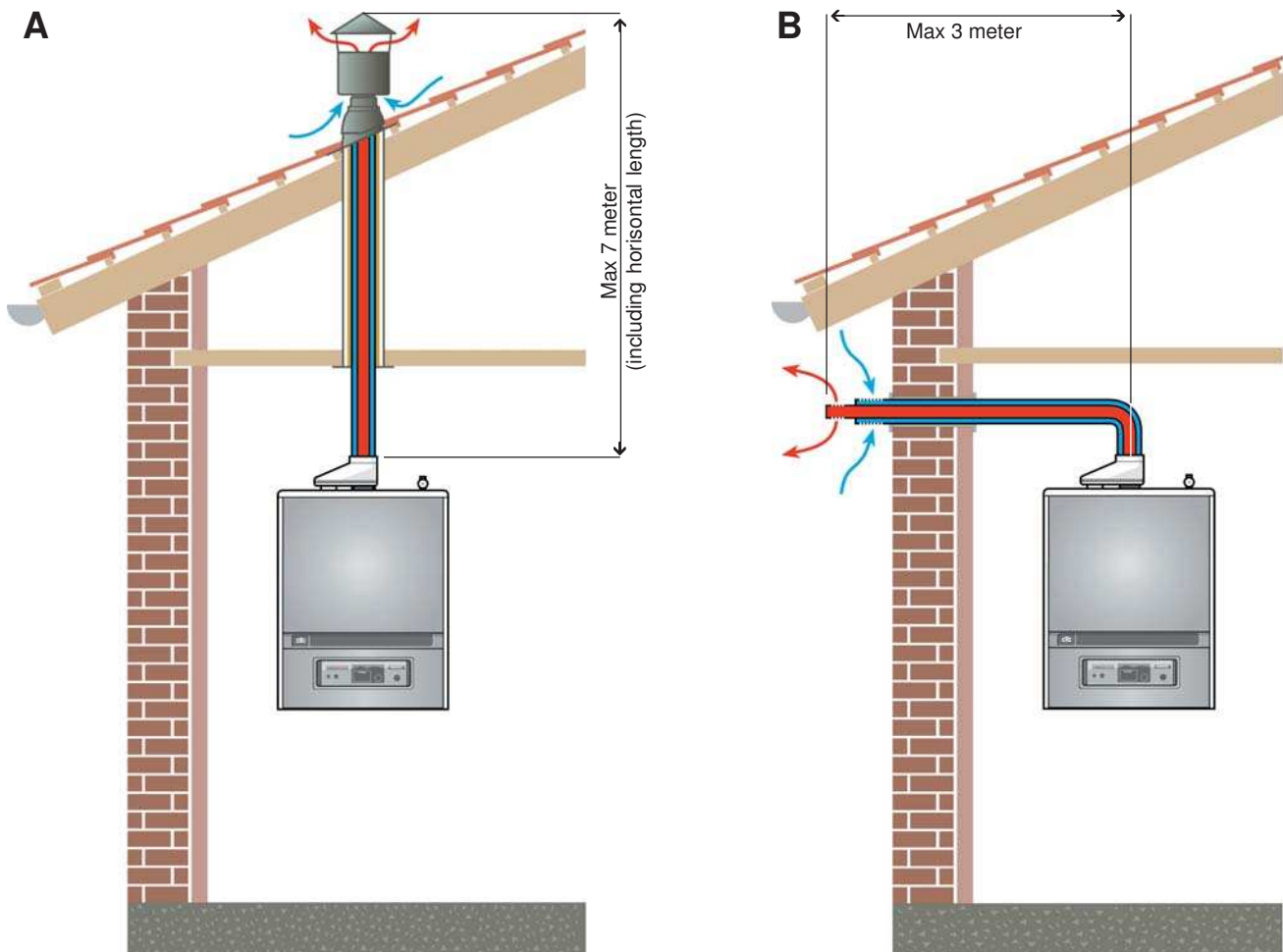
4. White connection cable.



5. White connection cable.

12. CHIMNEY SOLUTIONS

12.1 Balanced flue system 80/125 The installation must be performed according to the local regulations. We recommend to use the chimney solution according to figure A if possible.



12. CHIMNEY SOLUTIONS

12.2 Separate flue outlet (80 mm) and air inlet (80 mm)

The installation must be performed accordingly to local regulations.

