

# Installation and Maintenance Manual

G115

Hot water boiler for oil or gas power burners

**FOR YOUR SAFETY  
WHAT TO DO IF YOU SMELL GAS**

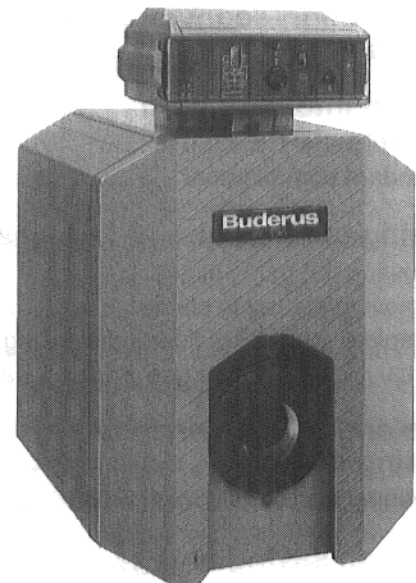
- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Call your gas supplier immediately from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

**WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

**WARNING**

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.



**G115 Ecomatic**

**Please save these instructions!**

**Buderus Hydronic Systems, Inc.**  
P. O. Box 647  
16 Industrial Way  
SALEM, NH 03079  
USA

# Contents

<b>1. Regulations, guidelines</b> .....	<b>2</b>
<b>2. Operating conditions</b> .....	<b>2</b>
<b>3. Delivery</b> .....	<b>3</b>
3.1. G115 .....	3
<b>4. Installation</b> .....	<b>3</b>
4.1. Adjustable screw-on feet .....	4
4.2. Mounting a G-115 boiler on the LT tank .....	4
<b>5. Combustion air supply</b> .....	<b>5</b>
<b>6. Flue gas connection</b> .....	<b>5</b>
6.1. Sealing the flue gas pipe .....	5
<b>7. Return connection</b> .....	<b>5</b>
<b>8. Connecting to the pipe network</b> ....	<b>6</b>
8.1. Heating return .....	6
8.2. Heating flow .....	6
<b>9. Leakage test</b> .....	<b>7</b>
<b>10. Burner assembly</b> .....	<b>7</b>
<b>11. Installing the control panel</b> .....	<b>8</b>
<b>12. Burner door – conversion to hinges on the left</b> .....	<b>11</b>
<b>13. Putting into operation</b> .....	<b>12</b>
13.1. Control panel HS 3220 .....	12
13.2. Standard control panel .....	12
<b>14. Raising temperature of flue gas</b> ...	<b>13</b>
14.1. Adjusting the baffle plates .....	13
14.2. Removing the baffle plates .....	14
14.3. Complete removal of flue gas blocking plate	14
14.4. Partial removal of flue gas blocking plate ...	15
<b>15. Care and maintenance of heating boiler</b> .....	<b>16</b>
15.1. Cleaning with the cleaning brush .....	16
<b>16. Notes on saving energy</b> .....	<b>18</b>
<b>17. Dimensions and technical data</b> ....	<b>20</b>
<b>18. Equipment</b> .....	<b>22</b>
18.1. Standard Equipment .....	22
18.2. Optional Equipment .....	22
<b>19. Installation and service certificate</b> .	<b>23</b>
<b>20. For the installing contractor</b> .....	<b>23</b>

## 1. Regulations, guidelines

Buderus hot water boilers for power burners G115 meet the requirements of ANSI, ASME, DIN 4702 DIN EN 303 resp. and DIN EN 304 with respect to design and operating behavior.

**When installing and operating, the following points must be observed:**

- The local construction regulations for positioning, air inflow and outflow equipment and the connection to the chimney.
- All electrical wiring must comply with the latest edition of the National Electric Code.
- The completed installation must meet the requirements of the authority having jurisdiction. In the absence of local requirements, oil installations should comply with the latest edition of NFPA "Standard for the Installation of Oil Burning Equipment" and gas installations should comply with the latest edition of the National Fuel Gas Code, ANSI Z223.1.
- The regulations and standards for safety equipment on water heating installations.

Only a qualified installing contractor may carry out the installation, the initial start-up, the connection for gas and flue gas, conversion to another type of gas and removal of malfunctions in the burner. Any work on parts conveying gas has to be carried out by a licensed specialist company. The hot water distribution system must comply with applicable codes and regulations. When replacing an existing boiler, it is important to check the condition of the entire hot water distribution system to insure safe operation.

Maintenance and cleaning should be carried out at least once a year by a trained specialist technician. The entire installation has to be tested for perfect functioning. Any defects detected have to be fixed without delay.

## 2. Operating conditions

– max. boiler temperature:	230 °F
– max. operating pressure:	58 psi
The maximum time delays T are for	
– thermostat:	40 sec.
– monitor/limiter:	40 sec.

The specifications on the boiler's performance label must be met.

### Fuels

- G115
- heating oil No. 2 fuel oil (ASTM Standard D396-86)
  - natural gas (NG)
  - liquefied petroleum gas (LPG)

Please file these instructions away carefully. They will be required for annual maintenance.

### 3. Delivery

#### 3.1. G115

The boiler series is supplied with a boiler jacket fitted, adjustable screw-on feet and technical documents.

If ordered in addition, the control panel is delivered packed separately.

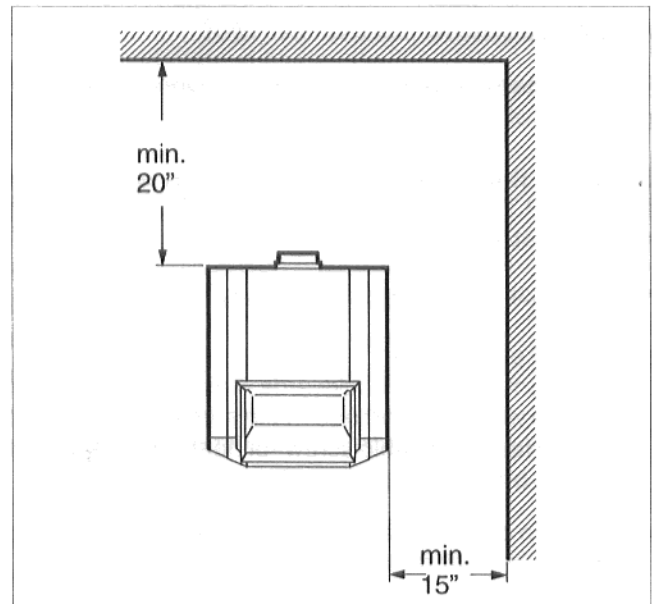


Fig. 1

### 4. Installation

When installing the boiler, the specified distances to walls must be observed (Fig. 1). The boiler dimensions can be looked up under Section 17 "Dimensions and technical data".

Remove the transportation pallet and place the boiler in an upright position. To move with the Buderus handtruck (which can be ordered at branches of Buderus Hydronic Systems), fasten the boiler to the handtruck with three wing nuts (Fig. 2).

To reduce weight for transportation, the burner door should be removed. This is done as described in Section 14 "Raising Temperature of Flue Gas".

The mounting surface of the boiler must be level and true.

It is advisable to place the boiler on a foundation approx. 2" high.

For lifting and carrying the boiler, there are four hand hole grips in the side panels (Fig. 3).

**For your own safety, always use appropriate transport equipment for conveying the boiler. Secure the boiler against sliding down during transportation by fastening it to the handtruck or similar equipment used.**

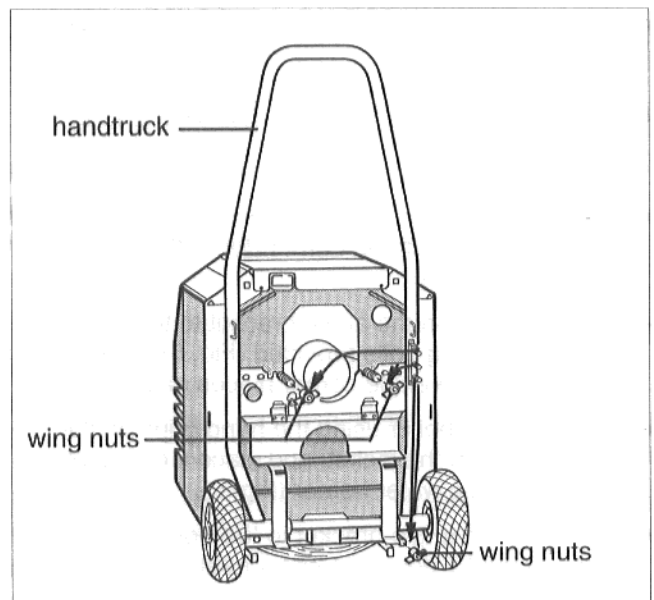


Fig. 2

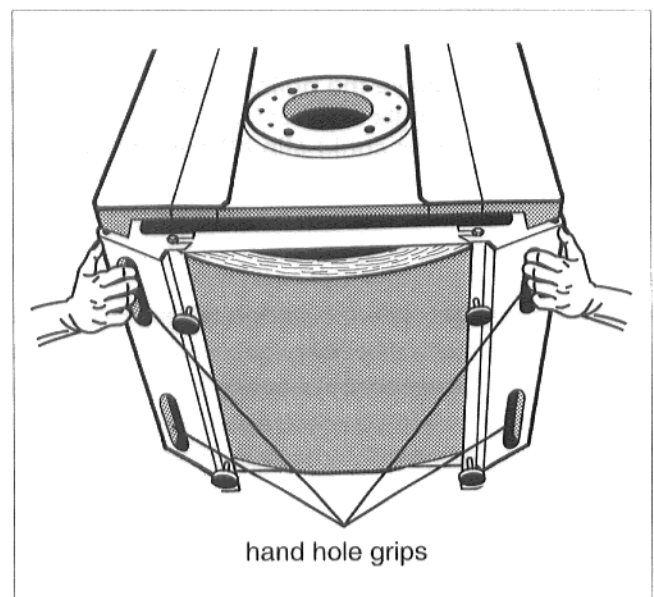


Fig. 3

## 4.1. Adjustable screw-on feet

The adjustable screw-on feet are delivered in the flue gas outlet of the boiler.

**Do not fit the adjustable screw-on feet to the boiler but to the LT storage tank when the boiler is mounted on an LT storage tank.**

- When using a Buderus handtruck, tilt it 90°.  
Without a handtruck:  
Tilt the boiler slightly backwards. Keep the boiler in this position with a support and make sure it cannot slip so that the four adjustable screw-on feet can be screwed into the bracket rails safely (Fig. 4).
- Screw in the adjustable screw-on feet  $\frac{1}{4}$  –  $\frac{1}{2}$  inch into the bracket rails.
- Lift the boiler upright onto the adjustable screw-on feet.
- Align the boiler vertically and horizontally by adjusting the screw-on feet.

## 4.2. Mounting a G-115 boiler on the LT tank

- Remove the two bolts that secure the burner door on the boiler. Lift the burner door off the hinges and set it aside.
- Loosely fasten the angle bracket to the boiler feet using the long bolts provided (Fig. 5). The bracket fits inside the angle corner pieces of the jacket.
- Pick up the boiler using the hand grips on the bottom sides of the jacket, and place it on top of the LT domestic water heater (Fig. 6).
- Secure the angle bracket to the front holes in the top of the LT domestic water heater (Fig. 5).
- Tighten all four bolts. (Fig. 6).
- Replace the burner door.

**Caution: Do not leave the boiler unattended on the LT tank until the angle bracket has been securely fastened. The boiler could slip off causing serious injury.**

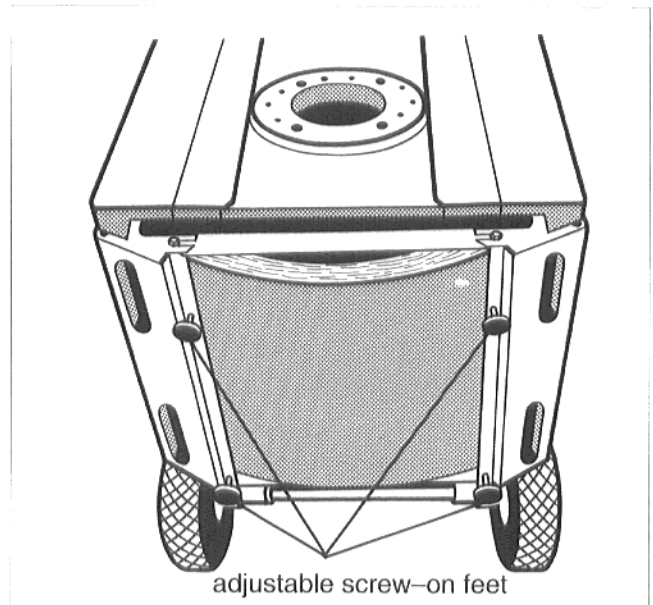


Fig. 4

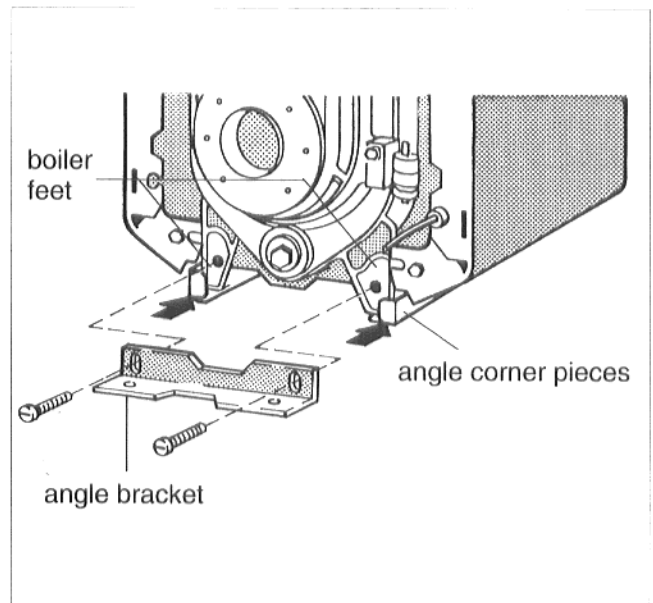


Fig. 5

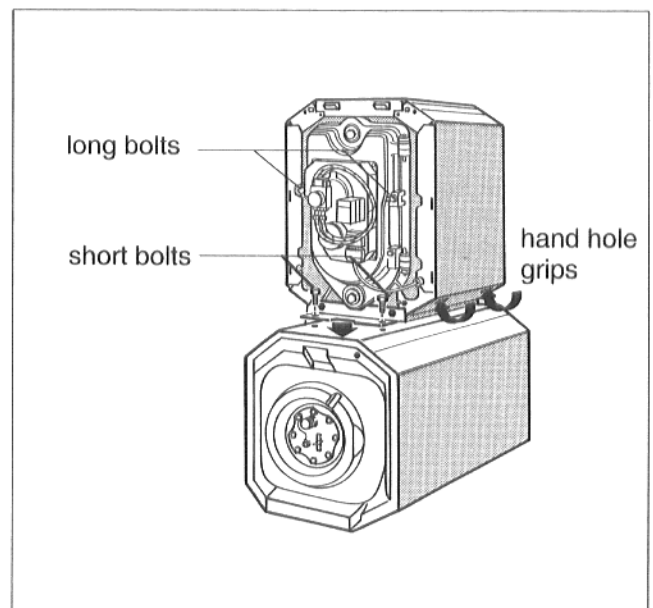


Fig. 6

## 5. Combustion air supply

**Sufficient air must be provided to the boiler room at all times.**

In buildings of conventional frame, brick or stone construction without enclosed utility rooms, basement storm windows or tight stair doors, infiltration is normally adequate to provide air for combustion and operation of the barometric draft control.

For installation in an enclosed utility room or boiler room without an outside wall, a fresh air opening to the outside with a free cross-sectional area of at least 100 sq. in. is recommended.

The boiler room should be isolated from any area served by exhaust fans.

## 6. Flue gas connection

### 6.1. Sealing the adapter pipe

- Push the adapter pipe (5") onto the flue gas collector to maximum depth (Fig. 7).
- Seal the joint between the adapter pipe and the flue connection piece.

An induced draft fan must be installed if the chimney design will not produce  $-0.03$  in. water column of draft at the breeching or if the boiler is being vented through a side wall. The fan must create this draft. A barometric damper must be installed on all installations. A double-acting barometric damper is recommended on power gas burner installations.

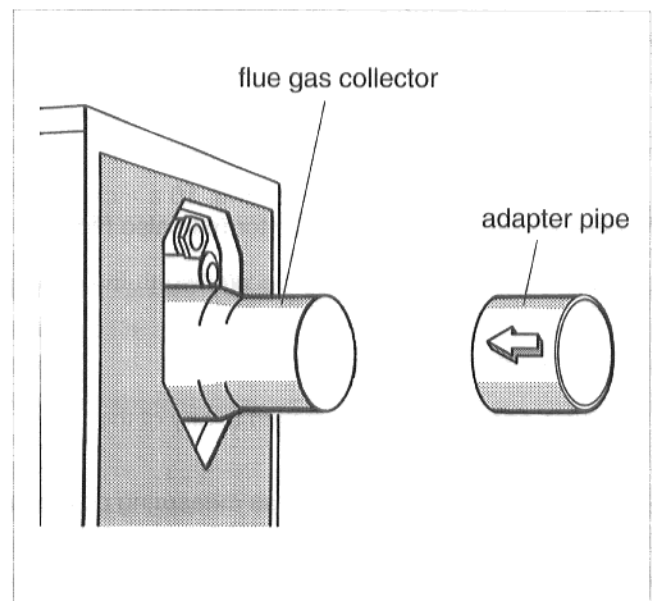


Fig. 7

## 7. Return connection

**The return connection in the return circuit of the boiler is sealed in the factory and must not be removed. It is an important part for proper functioning of the boiler (Fig. 8). It is necessary to distribute water properly to all of the boiler sections.**

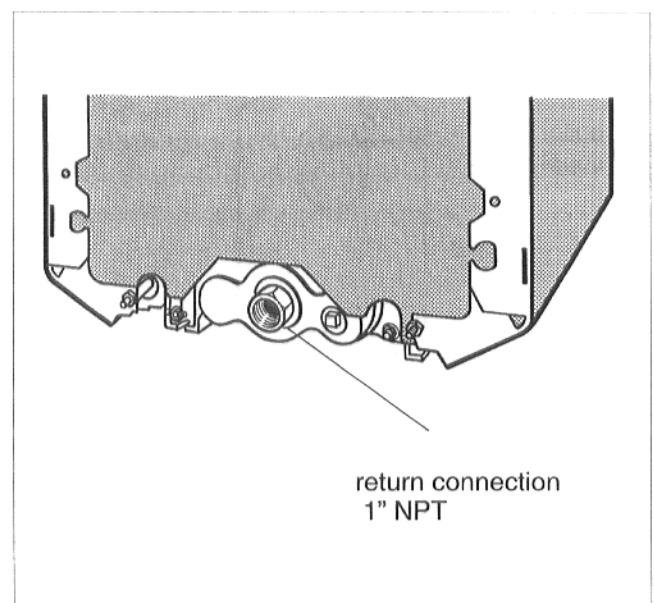


Fig. 8

## 8. Connection to the pipe network

The connection pipes must be connected to the boiler without any strain.

### 8.1. Heating return

Always connect the heating return (RK) to the return connection and seal (Fig. 9).

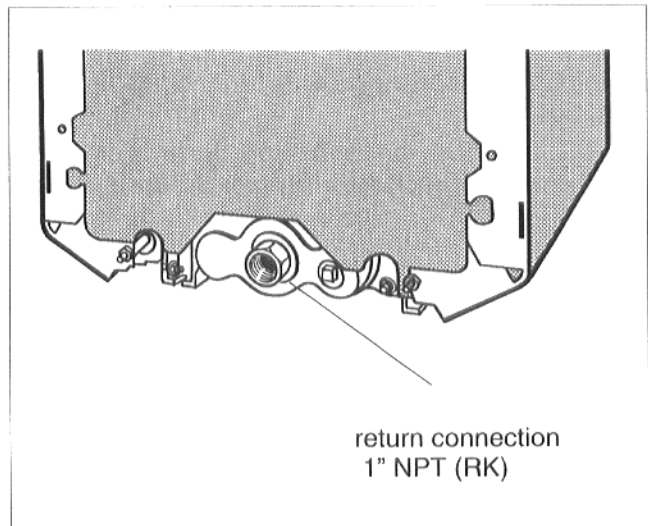


Fig. 9

### 8.2. Supply manifold

Connect the supply manifold (VK Fig. 10 a – c) in the middle above the flue gas collector (see also Fig. 38).

- Seal the NPT adapter with the Whitworth thread end into the flow connection of the boiler.
- Seal the 90° EII into the NPT adapter.

The NPT adapter can be installed in any of the three positions shown (Fig. 10 a – c).

Boiler flow connections as well as measuring points for tridicator, safety valve and aquastat are shown in Fig. 10 a – c.

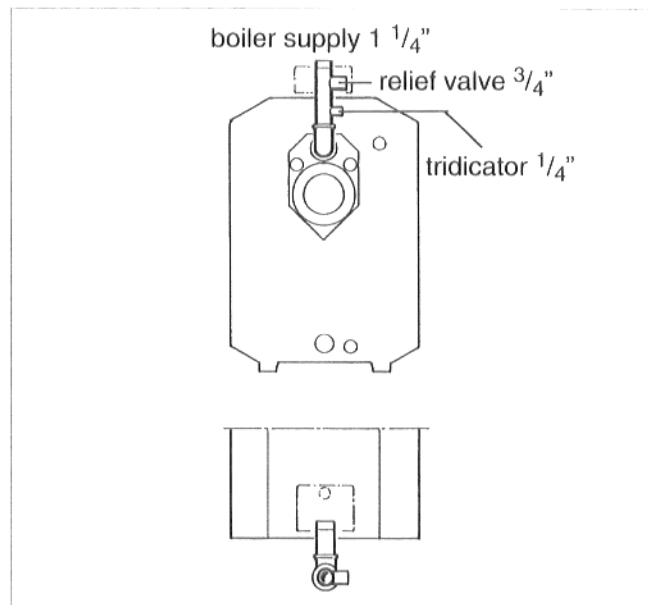


Fig. 10 a

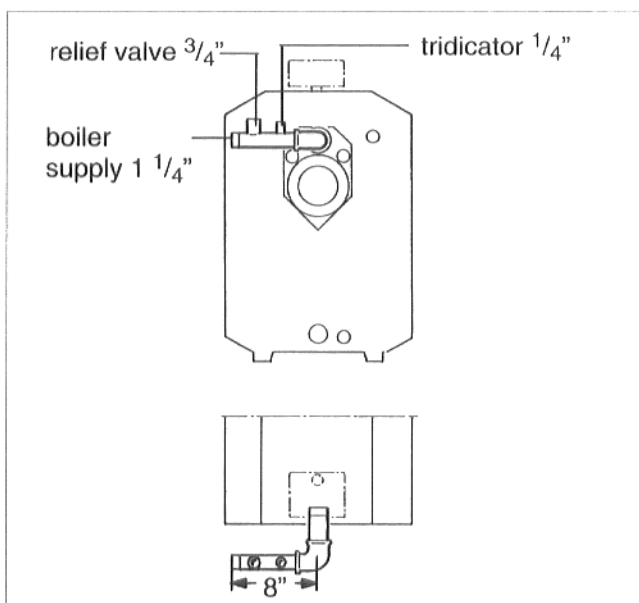


Fig. 10 b

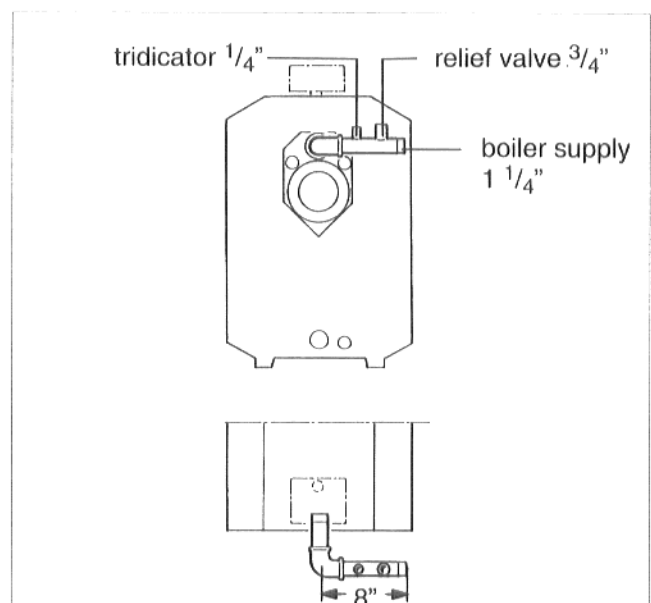


Fig. 10 c

## 9. Leakage test

The boiler has been hydrostatically pressure tested at the factory.

The boiler should also be pressure tested on site to ensure that the watertight seal has been maintained during shipment.

- Open all shut-off valves in the system.
- Isolate or remove safety valve and the expansion tank.
- Fill the installation with water at the boiler drain valve.
- Completely purge all air.
- Test the boiler with water pressure not exceeding 45 pounds per square inch.
- Inspect the boiler for leaks.
- At the end of the test period, check the pressure gage to make sure that the water test pressure has been maintained.

For subsequent operation of the boiler, there should be a minimum pressure of 5.7 p.s.i. on the return of the heating system to guarantee trouble-free functioning of the heating system circulator and the domestic hot water tank charging circulator.

## 10. Burner assembly

The bolts for mounting the burner flange to the boiler are provided with every boiler.

The specific manufacturer's instructions regarding installation, adjustment and periodic maintenance must be followed.

Combustion instruments must be used to insure clean and efficient combustion.

The following brands of burners are approved for use on the G-115 series boilers:

oil	Riello	F-3
	Beckett	AFII

gas	Wayne	P-265
-----	-------	-------

Burners are available set up with the correct nozzle and settings (air, pump pressure, turbulator setting, flange position) for each model boiler.

The burner can also be delivered without nozzle if it is to be fitted on site. Please contact your nearest Buderus distributor for information regarding alternative brands or models of burners.

# 11. Installing the control panel

## 11.1. Control panel HS 3220 (optional)

- Remove both self-tapping screws from the covering plate of the cable passageway and remove the covering plate (Fig. 11).
- Remove both fastening screws in the rear part of the boiler jacket (Fig. 11)
- Lift the rear of the boiler jacket slightly and remove towards the rear.

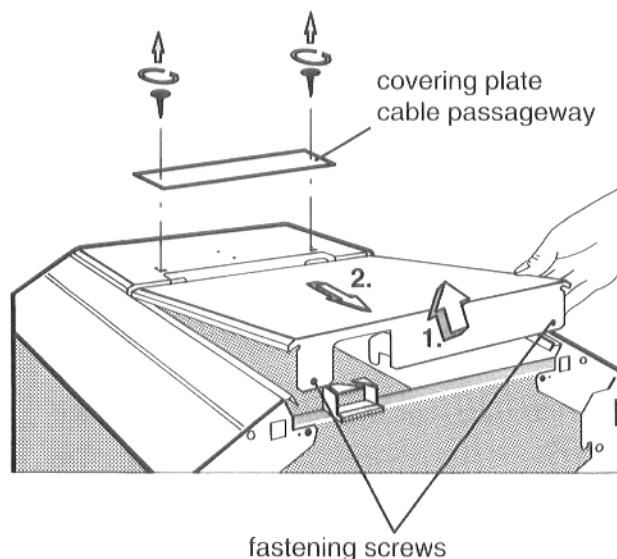


Fig. 11

- Remove both screws from the terminal cover of the control panel (Fig. 12). Remove the terminal cover.
- Remove both screws from the cover of the cable passageway (Fig. 12). Remove the cover of the cable passageway.

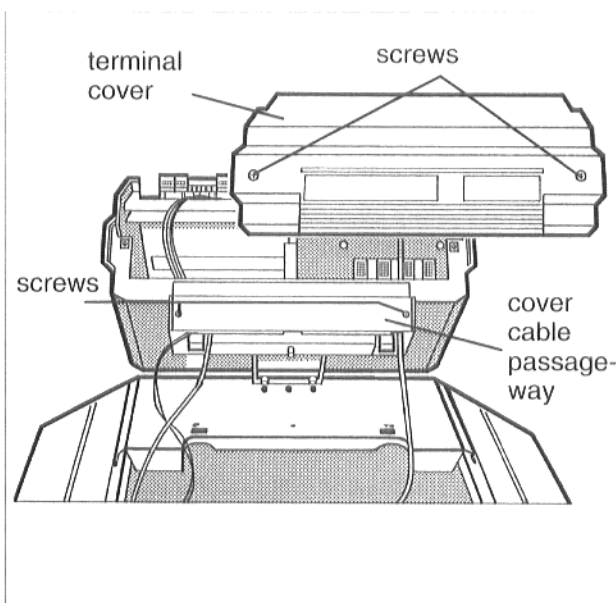


Fig. 12

- Place the control panel on the front jacket in such a way that the push-in hooks on the underside of the control panel are inserted in the oval drill holes (Fig. 13).

Lay the capillary tube of the temperature sensors and the boiler water thermometer lead in the cut-out in the front boiler jacket (Fig. 13).

- Tilt the control panel forward and push down until both elastic hooks click into the rectangular cut-outs at the rear (Fig. 13).

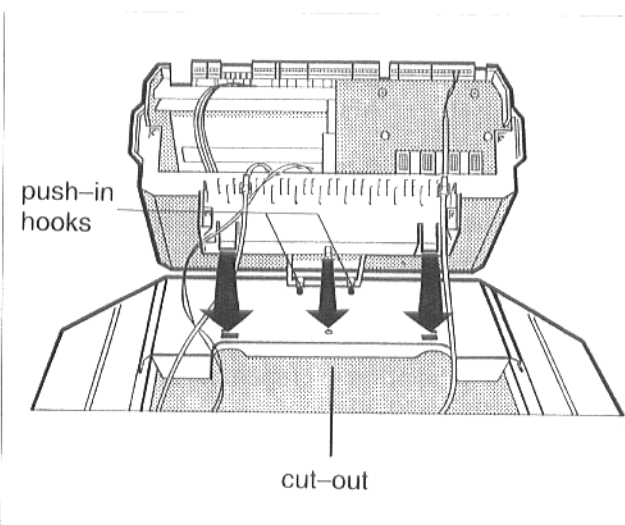


Fig. 13

- Screw the control panel tight onto the front part of the boiler jacket with two screws in the rear corners of the cable passageway (Fig. 14).

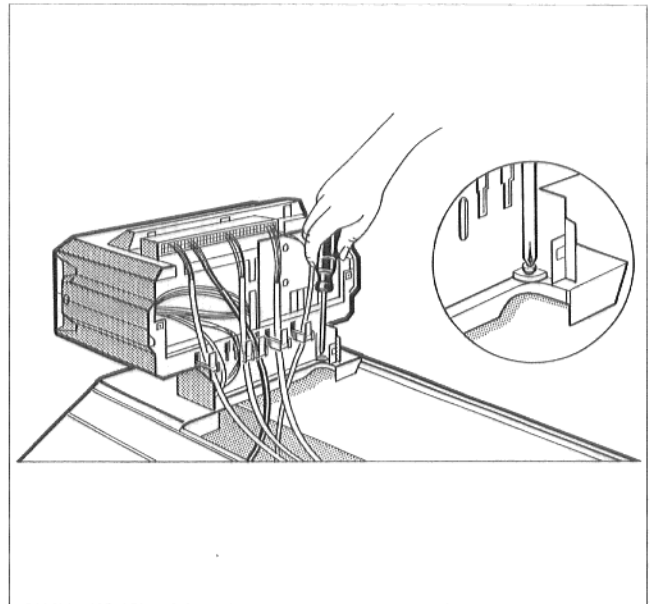


Fig. 14

- Roll out the capillary tube of the temperature sensors and the boiler water thermometer to the length required and take them to the measuring point.
- Remove the factory-installed immersion well and seal in the immersion well provided with the Ecomatic control panel into the rear boiler section (Fig. 15).
- Lay the capillary tube (Fig. 15) of the temperature sensors and the boiler water thermometer cable along the insulation of the boiler block toward the rear to the measuring point.

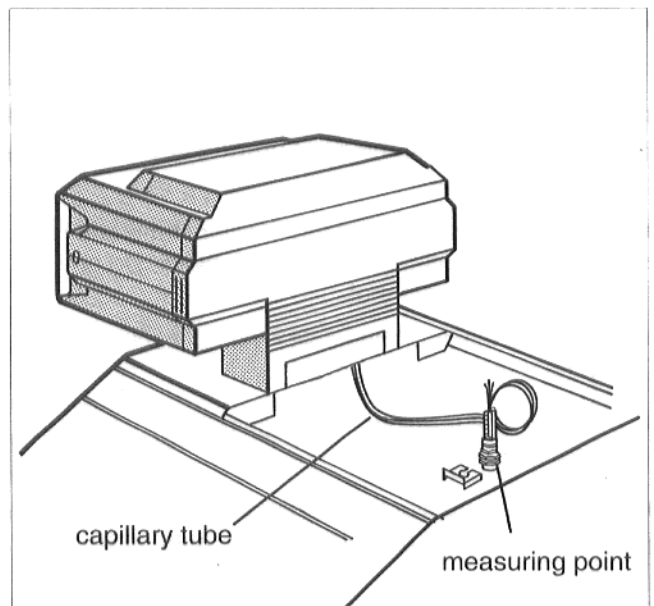


Fig. 15

- Push the thermometer into the immersion well up to maximum extent. The plastic spiral is pushed back automatically in doing so. The equalizing spring must be pushed into the immersion well with the thermometer (Fig. 16).
- Press the sensor fastener (supplied with the control panel) from the side or from above onto the head of the immersion well (Fig. 16).

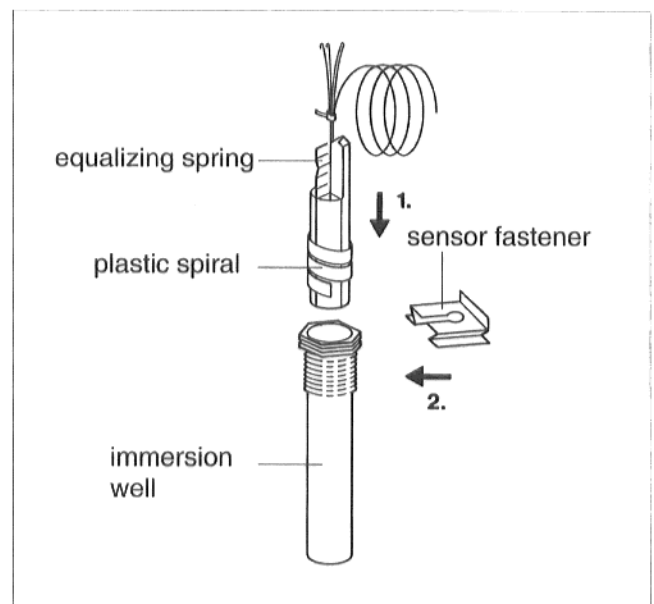


Fig. 16

- Take the burner cable towards the rear under the front of the boiler jacket and connect to the plug connections in the control panel as indicated there (Fig. 17).
- Make on-site electrical connections to the plug connections according to the circuit diagrams supplied with the Ecomatic control panel (Fig. 17).

Take the cables from the rear through the cable inlet along the boiler block insulation to the control panel.

The cables must not touch any hot parts of the boiler.

A fixed connection must be made. Local regulations must be observed!

**Caution:**  
**Label all wires prior disconnecting when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.**

- Fasten all cables in suitable cable clamp clips: Insert the cable clips with cable inserted from above in the slot of the clip frame. The base of the lever must point upward. Push down the cable clip and press on firmly. Lift the lever upward to clamp down (Fig. 17).
- Lay the excess length of the capillary tube and cables on the insulation of the boiler block. Do not bend the capillary tube!
- Screw the cover of the cable channel back onto the control panel (Fig. 18).
- Screw on the terminal cover again tightly onto the control panel (Fig. 18).
- Push the rear boiler jacket with the clips under the front boiler jacket and press down at the rear (Fig. 18).
- Screw the rear boiler jacket to the rear panel of the boiler.
- Put the slot of the fastening screw for the transparent cover of the control panel into a horizontal position (e.g. with a coin) and push in the transparent cover from the front. Turn the screw slot to a vertical position.

For improved visibility of the control panel's operating elements, the upper part can be swivelled upward into two positions.

To swing back the control panel, press the release button (Fig. 19).

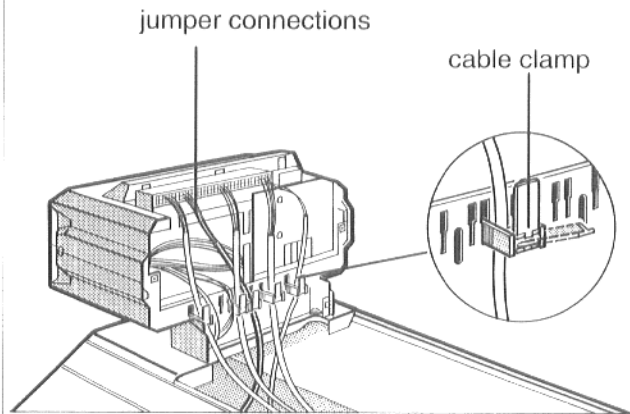


Fig. 17

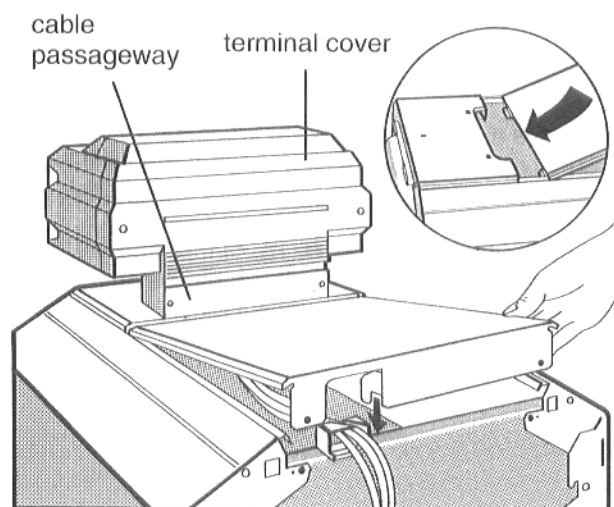


Fig. 18

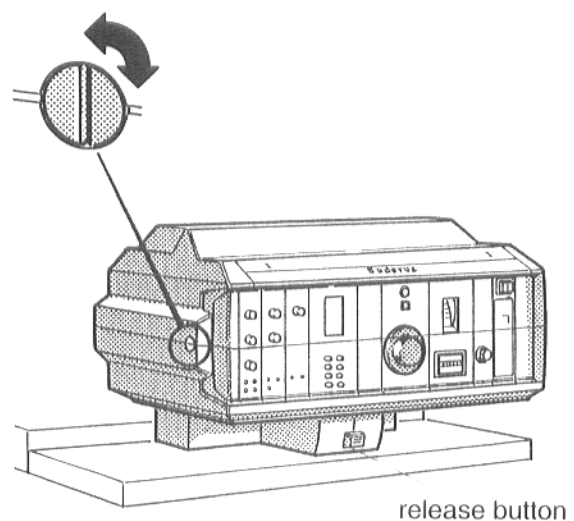


Fig. 19

## 11.2. Aquastat Honeywell L8148A (optional)

- The immersion well for the aquastat is installed in the factory (Fig. 20).

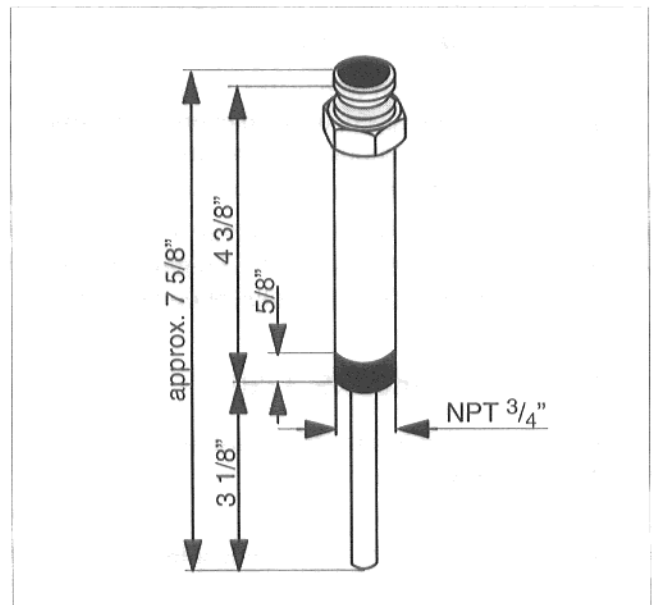


Fig. 20 3/4" Std. Ext. Shank

- Break out knock-out piece from the rear boiler jacket (Fig. 21).
- Push aquastat sensor into well and fasten aquastat to well with locking screw.
- Wire according to the Honeywell instructions supplied.

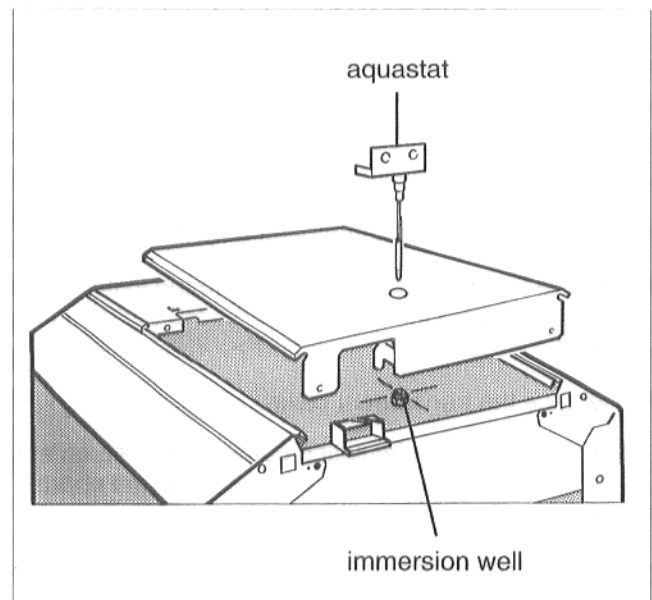


Fig. 21

## 12. Burner door – conversion to hinges on the left

- Lift the burner door cover slightly and remove toward the front (Fig. 22).
- Remove the hexagonal head bolts in the burner door and take it off (Fig. 22).
- Fit the hinges for the burner door and the front section in the mirror positions on the left.
- Put on the burner door again and close with the hexagonal head bolts.
- The burner cable must be installed on-site.

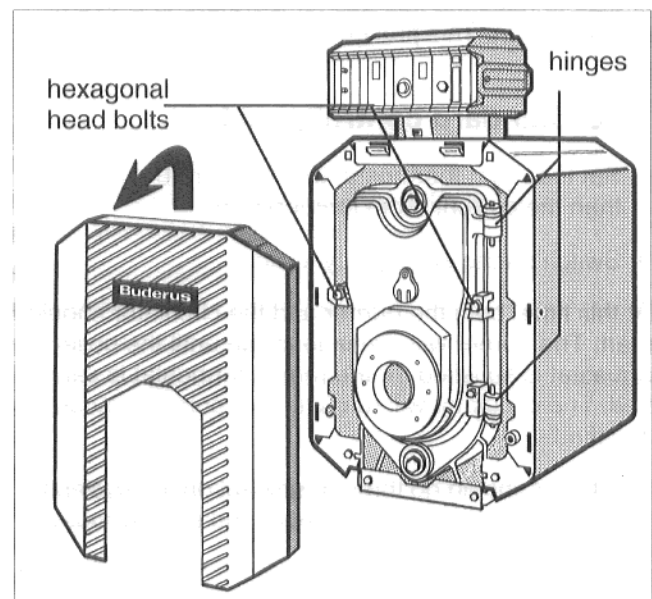


Fig. 22

## 13. Putting into operation

- Fill up the installation with water or a mixture of water and propylene glycol with inhibitors. The pressure in the system should be a minimum of 5.7 psi at room temperature.

Before putting the boiler into operation, it must be checked whether the flue gas baffles have not shifted. To check, follow the procedure described below in Section 14.

### 13.1. Control panel HS 3220

Detailed operating instructions are supplied with the control panel.

- Put the screw slot of the transparent cover of the control panel (Fig. 23) into a horizontal position, e.g. with a coin. Remove the transparent cover toward the front.
- Put the emergency switch and on-off switches (Fig. 24) of the Ecomatic control panel into position I (ON).
- Open the fuel supply shut off valve.
- Set the boiler water thermostat (Fig. 24) to 'AUT'.
- Set the Ecomatic clock according to the instructions in the operating instructions for the HS 3220 control panel.
- Replace the transparent cover.

The burner and the circulation pump will switch on and off automatically according to the settings and operating mode selected.

- Put the burner into operation according to the separate instructions for the burner.

Depending on the chimney construction, it may be desirable to raise the flue gas temperature to prevent condensation. This procedure is described in Section 14.

### 13.2. Standard control panel

- Set the room thermostat to a temperature higher than the current room temperature.
- Switch on the emergency switch.

At this time, both the burner and the circulator should start. The burner will continue to run until the boiler aquastat is satisfied, or the room thermostat is satisfied. The circulator will run until the room thermostat is satisfied.

The boiler should go through several on-off cycles to make sure that both the aquastat and the thermostat are functioning properly.

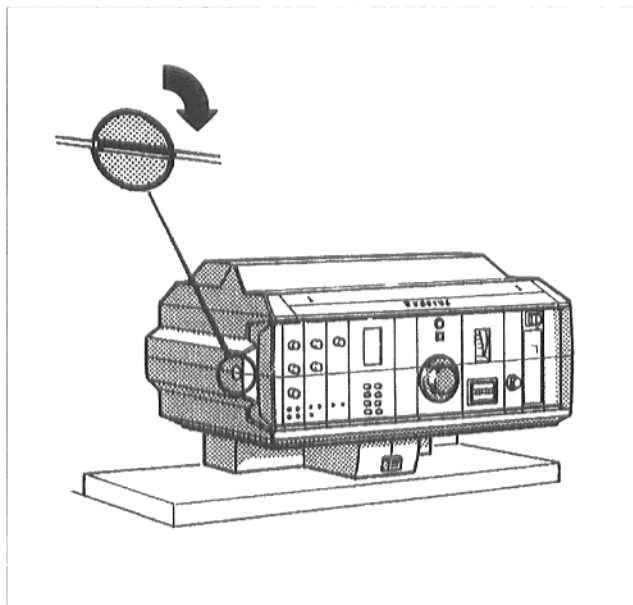


Fig. 23

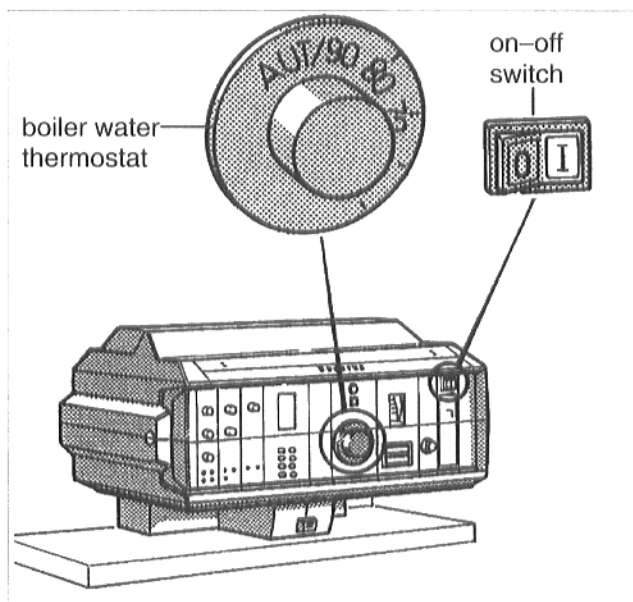


Fig. 24

## 14. Raising temperature of flue gas

There are four ways of raising the flue gas temperature which can be combined with each other. The various methods are described below:

### 14.1. Adjusting the baffle plates

- Switch off power to the installation.

E.g. Switch off the emergency heating switch in front of the heating room and secure against it being switched on unintentionally.

- Put the screw slot of the transparent cover of the control panel (Fig. 25) into a horizontal position, e.g. with a coin. Remove the transparent cover towards the front.
- Switch the on–off switch (Fig. 25) on the control panel to position 0 (OFF).
- Shut off fuel supply.
- If a flexible fuel supply line is not used, the fuel supply piping to the burner must be removed to swing open the burner door.

**Caution: Fuel supply lines can only be serviced by a licensed contractor or technician.**

- Lift the burner door cover slightly and remove towards the front (Fig. 26).
- Unscrew the hexagonal head bolts (Fig. 27) on the left and right of the burner door. Swing the burner door open.

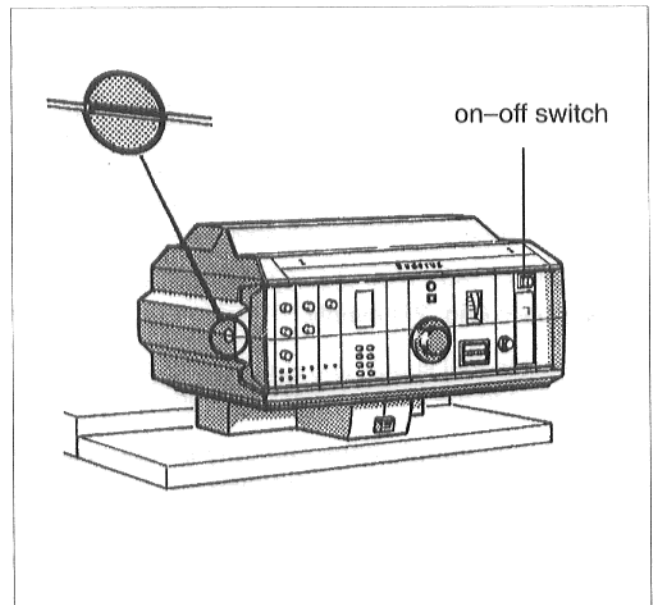


Fig. 25

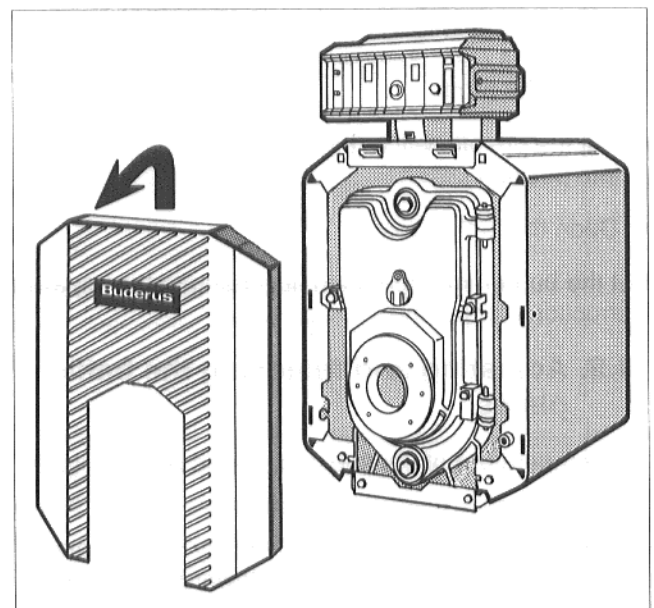


Fig. 26

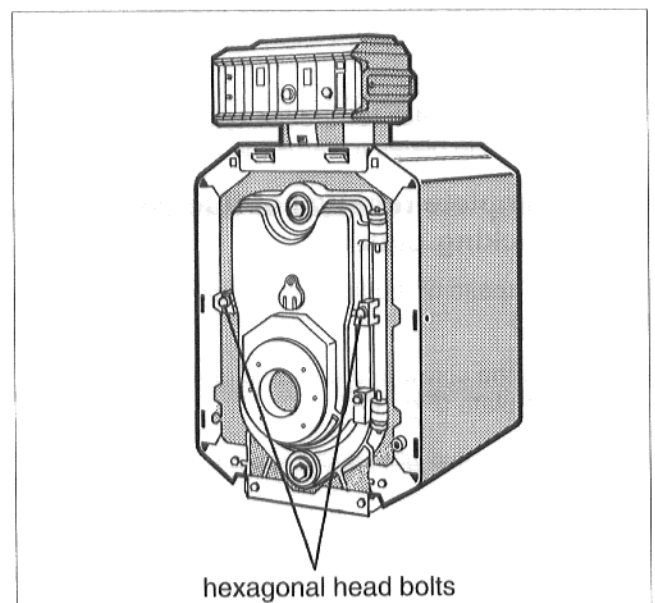


Fig. 27

- When the boiler is delivered, the flue gas baffle plates should be horizontal (Fig. 28).
- If the flue gas baffle plates are not horizontal, pull them slightly forward and turn them to a horizontal position. Push the flue gas baffle plates back into the boiler again. The safety latch must lie between the cast catches on the front section.
- Close the burner door and tighten both hexagonal head bolts (Fig. 27) evenly.
- If a flexible fuel supply line is not used, the fuel supply piping to the burner must be reconnected.

**Caution! Fuel supply lines can only be serviced by a licensed contractor or technician.**

- Switch on the power supply to the installation.

E.g. Switch on the emergency switch in front of the heating room.

- Put the screw slot of the transparent cover of the control panel (Fig. 25) into a horizontal position, e.g. with a coin. Remove the transparent cover towards the front.
- Put the on-off switch (Fig. 25) on the control panel into position I.
- Open the fuel supply.

Put the burner into operation according to the separate instructions for putting into operation.

## 14.2. Adjusting and removing the baffle plates

The temperature of the flue gas can be raised slightly as follows:

- Pull the flue gas baffle plates slightly forward and turn the safety latch one notch toward the inside. Push the flue gas baffle plates into the boiler again.

If this is not sufficient, the flue gas baffle plates can be removed entirely. This will increase the stack temperature by approximately 40 °F.

- Pull the flue gas baffle plates slightly forward and turn the safety latch toward the outside. Remove the flue gas baffle plates towards the front (Fig. 29).

## 14.3. Complete removal of flue gas blocking plate

(greater increase of the flue gas temperature by approx. 54 °F)

- Remove the screw in the middle of the flue gas blocking plate (Fig. 30).
- Remove the flue gas blocking plate from the front section.

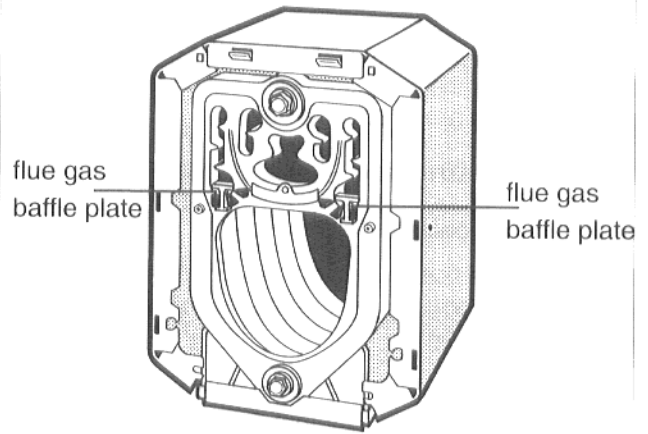


Fig. 28

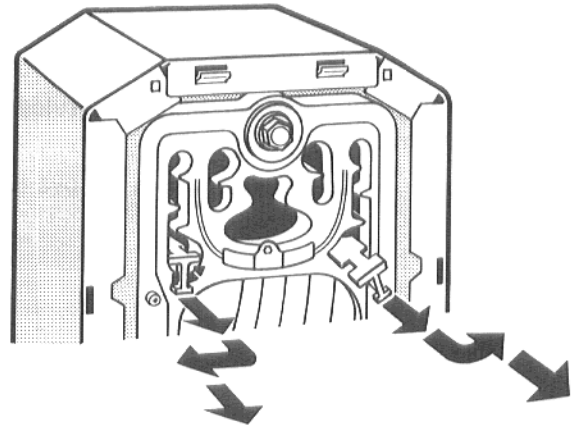


Fig. 29

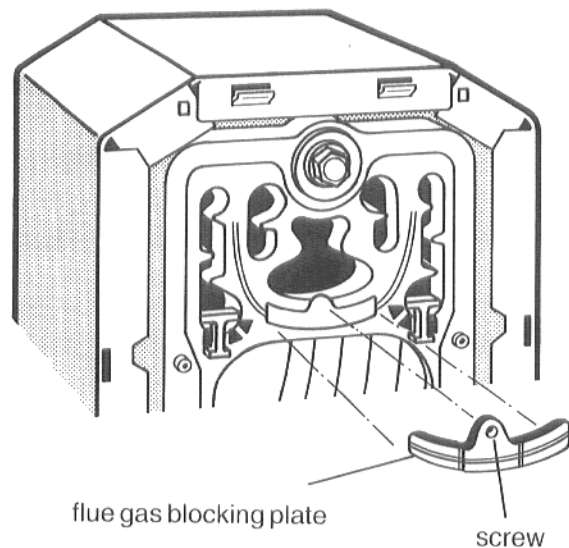


Fig. 30

#### 14.4. Partial removal of flue gas blocking plate

(small increase in flue gas temperature by approx. 27 °F)

- Remove the screw in the middle of the flue gas blocking plate.
- Remove the flue gas blocking plate from the front section.
- Place the flue gas blocking plate on a supporting surface in such a way that the predetermined breaking points hang over the edge of a workbench or similar surface (Fig. 31).
- Hit the rear of the predetermined breaking points lightly with a hammer. The side parts of the flue gas blocking plate will be broken off.
- Screw the middle part of the flue gas blocking plate back onto the front section of the heating boiler.

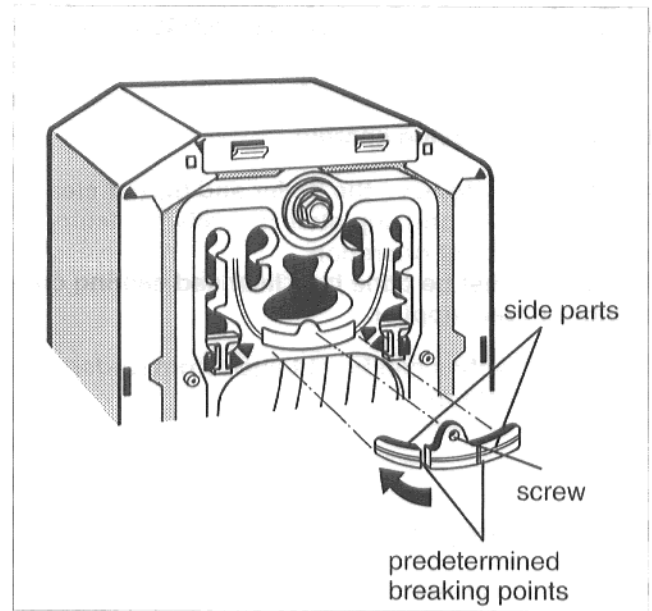


Fig. 31

# 15. Care and maintenance of heating boiler

## Important for saving energy!

It is advisable to have the boiler and burner cleaned, inspected, and adjusted annually to insure safe and efficient operation. This work must be done by a licensed heating contractor or fuel supplier.

Cleaning brushes can be obtained from Buderus Hydronic Systems.

### 15.1. Cleaning with the cleaning brush

- Switch off the power to the installation.

E.g. Switch off the emergency switch in front of the boiler room and secure against it being switched on unintentionally.

If an Ecomatic control panel HS 3220 is installed:

- Put the screw slot of the transparent cover of the control panel (Fig. 32) into a horizontal position, e.g. with a coin. Remove the transparent cover toward the front.
- Put the on-off switch (Fig. 32) on the control panel into position 0 (OFF).
- Shut off the fuel supply. Loosen the fuel supply piping to the burner if a flexible supply line has not been used.

**Work on the gas pipes may only be carried out by a licensed specialist technician.**

- Lift the burner door cover slightly and remove towards the front (Fig. 33).

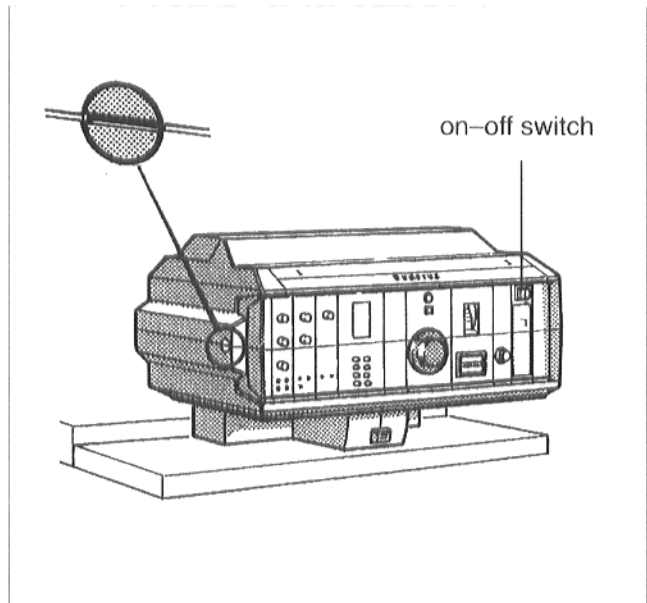


Fig. 32

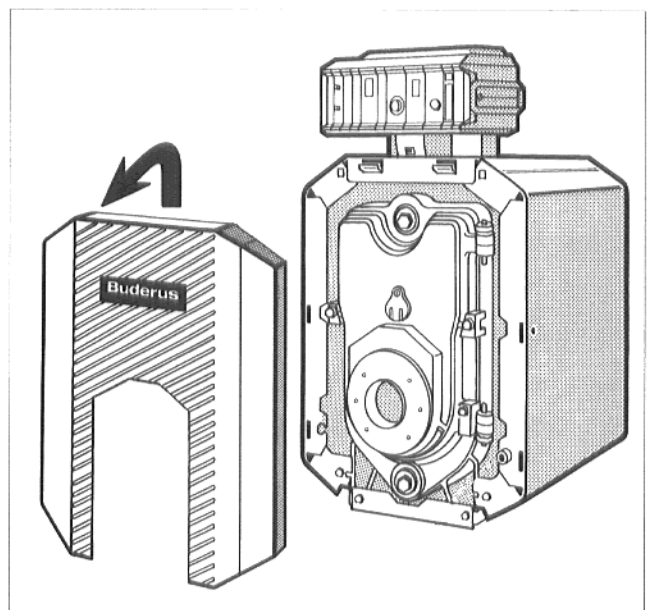


Fig. 33

- Unscrew both hexagonal head screws on the left and right of the burner door (Fig. 34) and swing the burner door open.
- Remove the flue gas baffle plates as described above. Make a note of the position of the flue gas baffle plates so that they can be put back in the same position after cleaning.

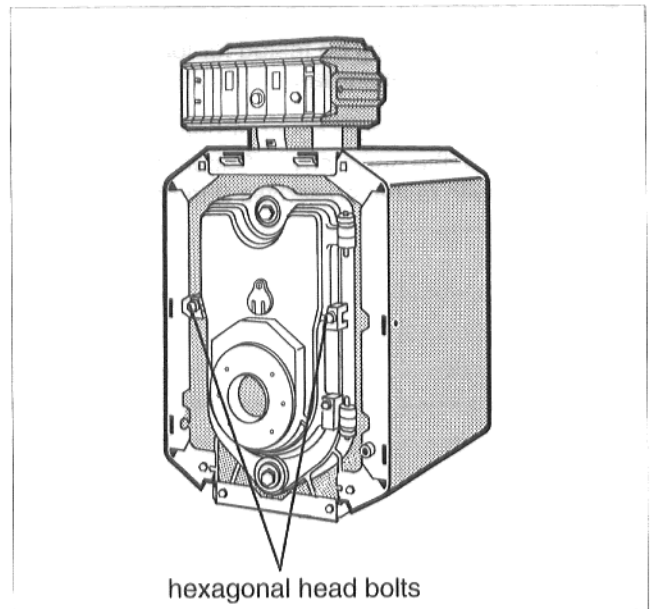


Fig. 34

- Clean the side flue gas channels (Fig. 35) with the cleaning brush (1). Cleaning is performed by a horizontal and rotating movement of the cleaning brush.

So that the body of the brush does not become loose when rotating it, the body and the handle are joined together firmly with a splint.

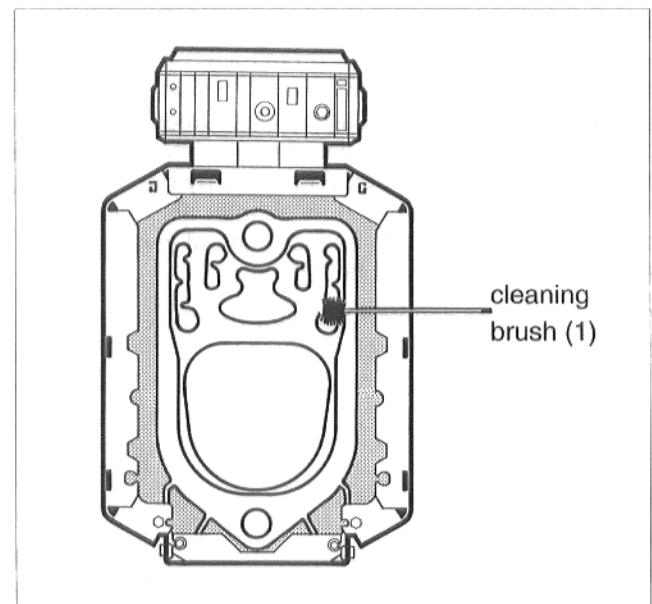


Fig. 35

- Clean the flue gas collection channel and the combustion chamber with the cleaning brush (2) (bent handle) (Fig. 36). Also clean the flue gas collection channel by rotating cleaning brush (2) between the sections.
- Remove loosened pieces of combustion residue in the flue gas collection channel and the combustion chamber toward the front.
- Insert the flue gas baffle plates as described on previous pages and put into their old position.
- Check the seal on the burner door for:
  - completeness
  - hardening
 If one of these is inadequate, the seal should be replaced (GP cord 14 x 1610).
- Close the burner door and screw tight with the two hexagonal head bolts (Fig. 34). The bolts must be tightened evenly.

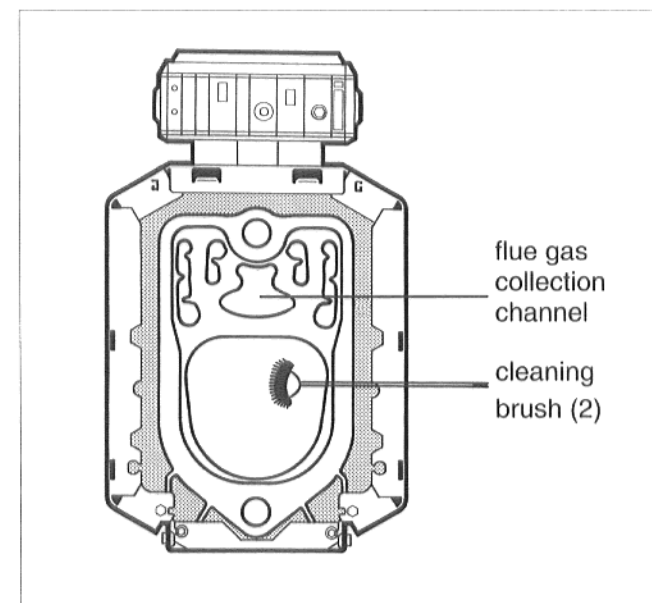


Fig. 36

- Reconnect the fuel supply. On gas systems, all piping connections must be tested for leaks by a licensed, qualified technician.
- Replace the burner door cover or burner hood to the side panels of the boiler cover. Secure the cover on both sides with fastening screws (Fig. 37).

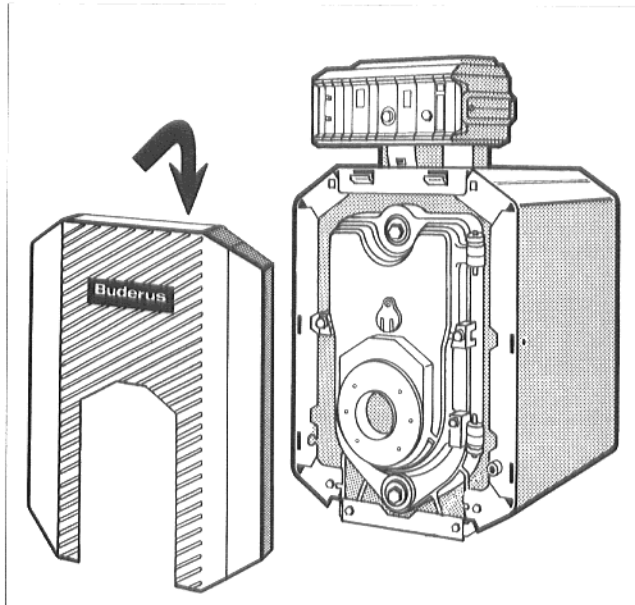


Fig. 37

## 16. Notes on saving energy

It is recommended that an operating hours counter be installed. With the operating hours counter, the fuel consumption can be calculated approximately by multiplying the number of operating hours by the hourly oil flow rate. The operating hours counter also allows approximate statements to be made about level of use and dimensioning of the boiler.

Operating hours counters are only available with the optional Ecomatic control.

1. The first step in the scientific process is to ask a question. This question should be based on an observation or a problem that needs to be solved. For example, a scientist might observe that a plant grows faster in one location than another and ask, "What factors affect plant growth?"

2. Next, the scientist makes a hypothesis, which is an educated guess about the answer to the question. This hypothesis is based on the scientist's knowledge and previous experiences. For example, the scientist might hypothesize that "Plants grow faster in sunny locations." This hypothesis can be tested by conducting an experiment.

3. The third step is to design and conduct an experiment. The scientist sets up a controlled experiment where only one variable is changed at a time. In this case, the scientist would grow plants in different locations (sunny vs. shaded) while keeping all other factors (water, soil, etc.) constant. The scientist then collects data on the growth of the plants over time.

4. After the experiment is complete, the scientist analyzes the data to see if it supports the hypothesis. If the plants in the sunny location grew faster, the hypothesis is supported. If not, the hypothesis is rejected, and the scientist may need to ask a new question or make a new hypothesis.

5. Finally, the scientist communicates the results of the experiment to the scientific community. This is done through a process called peer review, where other scientists evaluate the work and provide feedback. If the work is accepted, it is published in a scientific journal, and the scientist may receive recognition for their contribution.

## 17. Dimensions and technical data

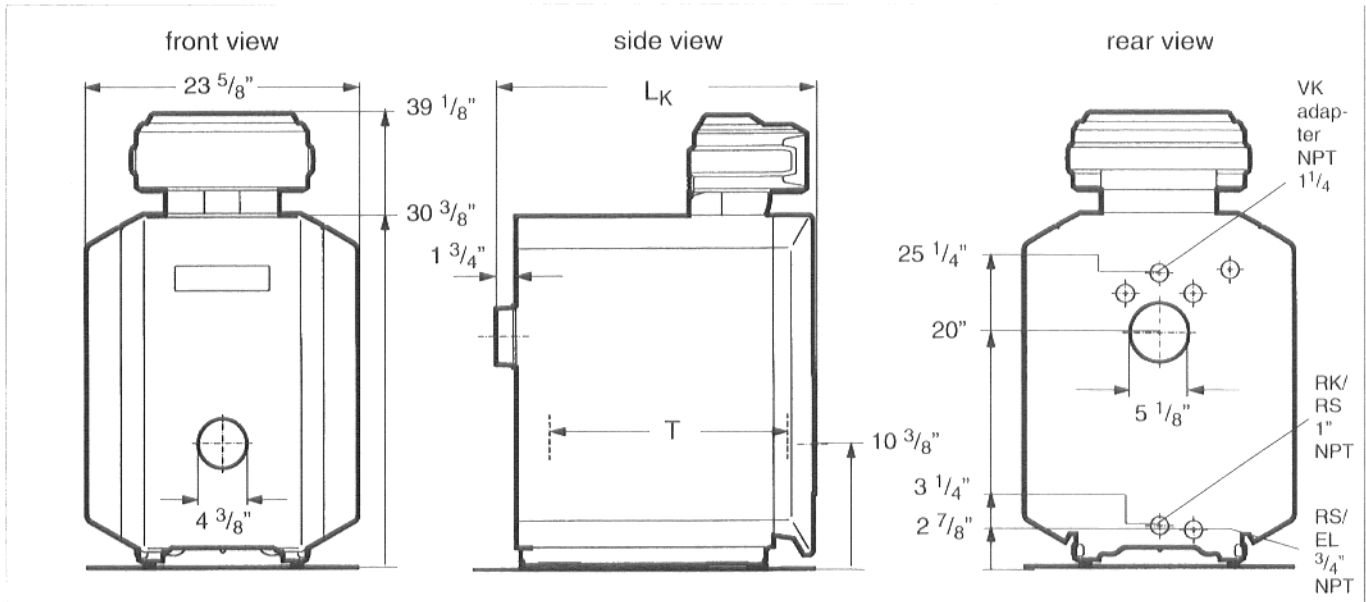


Fig. 38 Boiler series G115

### Key to Fig. 38

- VK = boiler flow
- RK = boiler return
- VSL = safety flow circuit
- RSL = safety return circuit
- VS = flow storage
- RS = return storage
- EL = filling and draining connection

## Boiler G115

Boiler size		21	28
Gross output	BTU/Hr	74,000	98,000
Net IBR output	BTU/Hr	64,000	85,000
Firing rate	GPH	.60	.80
Gas input rate	BTU/Hr	84,000	112,000
Net weight <sup>1)</sup>	lb	330	403
Boiler water content	approx. gallons	7.5	9.3
Flue gas temperature <sup>2)</sup>	°F	304 – 347	297 – 351
Gas content	cubic feet	1.29	1.75
Required draft	in. H <sub>2</sub> O	-0.03	-0.03
Max. temperature <sup>3)</sup>	°F	230	
Max. working pressure (ASME): Water	psi	58	
Boiler length	L <sub>K</sub> in.	22 <sup>7</sup> / <sub>8</sub>	27 <sup>5</sup> / <sub>8</sub>
Combustion chamber length	T in.	15 <sup>1</sup> / <sub>4</sub>	20

1) Boiler weight without packing

2) Depending on the soiling of the heating surfaces, deviations are possible. The flue gas temperature can be raised by removing flue gas baffle plates.

3) Safety limit (safety temperature limiter)

# 18. Equipment

## 18.1. Standard Equipment

Jacket

Installation and Maintenance Manual

Screw-on Feet

1 1/4" NPT Hot Water Supply Manifold

1 1/4" NPT 90° Ell

1 1/4" Withworth X NPT Adaptor

30 LB. Relief Valve

Tridicator

## 18.2. Optional Equipment

Riello F-3 or Beckett AF II oil burner

Wayne P265 Conversion Gas Burner

Honeywell L8148A Aquastat

Ecomatic Control System

Taco Model 007 or Grundfoss Model UP15-42F Circulator

3/4" Boiler Drain Valve

BX Electrical Cable

Cleaning Brushes

Flexible Oil Line

Subject to change without notice!

## 19. Installation and service certificate

Type \_\_\_\_\_ Operator \_\_\_\_\_

Manufacturer's no. \_\_\_\_\_ Location \_\_\_\_\_

Installing contractor \_\_\_\_\_  
(specialist company)

The system described above has been installed and put into operation according to all applicable codes and regulations.

The technical documents have been delivered to the operator who has also been made familiar with the safety instructions and the maintenance of the installation described above.

\_\_\_\_\_  
Date, signature of installing contractor

\_\_\_\_\_  
Date, signature of operator

## 20. For the installing contractor

Type \_\_\_\_\_ Operator \_\_\_\_\_

Manufacturer's no. \_\_\_\_\_ Location \_\_\_\_\_

The technical documents have been delivered to the operator who has also been made familiar with the safety instructions and the maintenance of the system described above.

\_\_\_\_\_  
Date, signature of operator

