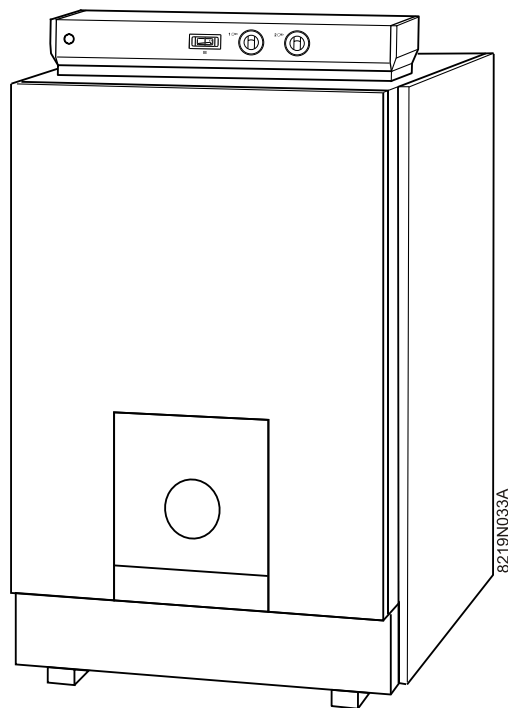


# GT 300 A/II

Oil-Gas Fired Hot Water boiler

English  
03/14/08



## Installation and operating instructions

**Warning:**  
Before putting the boiler into operation read this manual carefully.

**Warning:**  
The operating manual is part of the documentation that is delivered to the installation's operator. Go through the information in this manual with the owner/operator and make sure that he or she is familiar with all the necessary operating instructions.

**Notice:**  
This manual must be retained for future reference. Improper installation, adjustment, alteration, service or maintenance can cause injury, loss of life or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.



**De Dietrich**



**Warning:**

indicates presence of hazards that can cause, if not avoided, severe personal injury, death or substantial property damage.

**Caution:**

indicates presence of hazards that will or can cause, if not avoided, minor personal injury or property damage.

**Notice:**

Application comment for optimum use of equipment and adjustment as well as useful information.



Reference to an other instruction book.

**Observe the following symbols****DANGER**

**due to explosion of gas.**

- Work only on gas components when you have a license to do so.
- Note that the assembly of gas and vent connections, the initial start-up, the electrical connections, the maintenance and service can only be performed by a licensed service contractor or technician.

**DANGER**

**due to electricity.**

- Prior to doing any work on the heating system, disconnect all electrical power to the boiler at the emergency switch.
- It is NOT sufficient to shut off only the boiler control!

**CAUTION!****SYSTEM DAMAGE**

**due to improper installation.**

- Observe local and state codes as well as common industry practices during the installation and operation of the heating appliance.

**CAUTION!****SYSTEM DAMAGE**

**due to inadequate cleaning and maintenance.**

- A boiler cleaning and maintenance should be performed annually. Verify complete system operation at the same time.
- Correct the problem immediately to prevent damage to the system!

Please observe the following safety instructions.

Read this manual carefully.

Correct installation and adjustment of the burner and the control panel is a precondition for safe, efficient operation of the gas boiler.

Read this manual and the specifications on the safety label carefully before attempting to put the burner into operation.



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

**Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

**WHAT TO DO IF YOU SMELL GAS:**

- Do not try to light any appliance.
- Do not touch any electric switch, do not use any phone in your building.
- Immediately call your gas supplier 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, and/or operation could cause carbon monoxide poisoning resulting in injury or death.

**This product must be installed and serviced by a professional service technician who is experienced and qualified in hot water boiler installation and gas combustion.**



**Caution:** Strict compliance with these instructions is a precondition for the correct operation of the boiler.

**IMPORTANT**

Service on this boiler should be undertaken only by trained and skilled personnel.

Keep boiler area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

Do not place any obstruction in the boiler room that will hinder the flow of combustion and ventilating air.

Read these instructions carefully before proceeding with the installation of boiler. Post instructions near boiler for reference by owner and serviceman.

Maintain instructions in legible condition.


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## Regulations and guidelines

The installation and operating instructions shown here are given as a guide for installation and operation and are not meant to replace any State or Local Codes that may apply to the individual installation. Good engineering practice should be used. Any deviation from laws or regulations or industry Code or these instructions will void the boiler warranty and any other responsibility or liability of the De Dietrich Thermiques S.A.

### Installation codes

- THE BOILER SHALL BE ASSEMBLED AND INSTALLED BY A QUALIFIED PROFESSIONAL ONLY. STRICT COMPLIANCE WITH THESE INSTALLATION AND OPERATING INSTRUCTIONS IS A PRECONDITION FOR THE CORRECT AND GUARANTEE OF THE BOILER.
  - THE INSTALLATION MUST CONFORM TO THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION OR, IN THE ABSENCE OF SUCH REQUIREMENTS, TO THE CAN/CGA B-149 FUEL GAS INSTALLATION CODES AND CSA B-139 OIL INSTALLATION CODES.
  - WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION, THE INSTALLATION MUST CONFORM TO THE STANDARD FOR CONTROLS AND SAFETY DEVICES FOR AUTOMATICALLY FIRED BOILERS ANSI/ASME CSD-1.
  - THE INSTALLATION OF THE RELIEF VALVE SHALL BE CONSISTENT WITH ANSI/ASME BOILER PRESSURE VESSEL CODE, SECTION IV CSA B51.
  - THE BOILER MUST NOT BE INSTALLED ON CARPETING.
  - IF AN EXTERNAL ELECTRICAL SOURCE IS UTILIZED, THE BOILER WHEN INSTALLED, MUST BE ELECTRICALLY BONDED TO GROUND IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION OR, IN THE ABSENCE OF SUCH REQUIREMENTS, WITH THE CANADIAN ELECTRICAL CODE PART 1, CSA C22.1, ELECTRICAL CODE.
-  **LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING CAN CAUSE IMPROPER OPERATION AFTER SERVICINGS. "VERIFY PROPER OPERATION AFTER SERVICE".**

### General

The **GT300 A/II** are series of oil or gas fired, cast iron, automatic boilers.

#### 1 Uncrating

Upon arrival, check shipment to ensure all parts have been shipped. Inspect all items for delivery damage. Report all damage and shortages to the delivery carrier. Report any damage and shortages to the Distributor.

#### 2 Packing

See the separate assembly instruction book.

For the optional equipment you may use with this boiler, see the current price list.

			Model					
Item		Unit	GT 304 A/II	GT 305 A/II	GT 306 A/II	GT 307 A/II	GT 308 A/II	GT 309 A/II
Firing Sequence			Consult Burner Technical Data					
[CSA] - Gas Input		MBH	404	598	808	1,024	1,226	1,442
		kW	118	175	237	300	359	423
[CSA] - # 2 Fuel Oil Input		US GPH	2.80	4.15	5.60	7.10	8.50	10.00
[CSA] - Output [Gas-Oil]		MBH	343	509	686	870	1,042	1,226
		kW	100.6	149.1	201.2	255.1	305.3	359.2
[NET] - Output [Gas-Oil]		MBH	298	442	597	757	906	1,066
Cast Iron Sections		#	4	5	6	7	8	9
Flue-way baffles		#	6	10	10	10	12	12
Water Capacity		US Gal	25.37	30.65	35.94	41.22	46.51	51.80
		Liter	96	116	136	156	176	196
Water Resistance [ΔT = °F]	18° F	Ft. H <sub>2</sub> O	0.368	0.60221	1.0371	1.539	2.275	3.5129
	27° F	Ft. H <sub>2</sub> O	0.1539	0.24758	0.47508	0.6524	1.007	1.539
	36° F	Ft. H <sub>2</sub> O	0.0869	0.1405	0.26765	0.36802	0.56876	0.86986
Combustion Chamber Dimensions	Diameter [equivalent]	Inch	14.84					
		mm	377					
	Depth	Inch	24.45	30.75	37.05	43.35	49.65	54.96
		mm	621	781	941	1,101	1,261	1,396
	Volume	Ft <sup>3</sup>	3.39	4.31	5.23	6.14	7.06	7.98
		m <sup>3</sup>	0.096	0.122	0.148	0.174	0.2	0.226
MAWP [Water]		PSI	ASME IV Rating Class 30 - (81 PSI) [See Canadian Provincial CRN approvals]					
Min. Safety Relief Capacity		MBH	343	509	686	870	1,042	1,226
FA 122 Panel	Electrical Connection	V/P/H	120/1/60					
	Max. Water Temp. Safety Limit [MR]	° F	248					
		° C	120					
	Water Operating Temperature Range	° F	104 - 185					
		° C	40 - 85					
Chamber Resistance		Inch w.c.	0.80	0.16	0.28	0.48	0.72	0.88
		mbar	0.2	0.4	0.7	1.2	1.8	2.2
Gas-Vent Category		#	I, II - III or IV					
Boiler Vent Connection		Inch	7	7	7	8	8	8
Weight [Dry]		lb	1,124	1,340	1,530	1,744	1,953	2,154
		kg	510	608	694	791	886	977

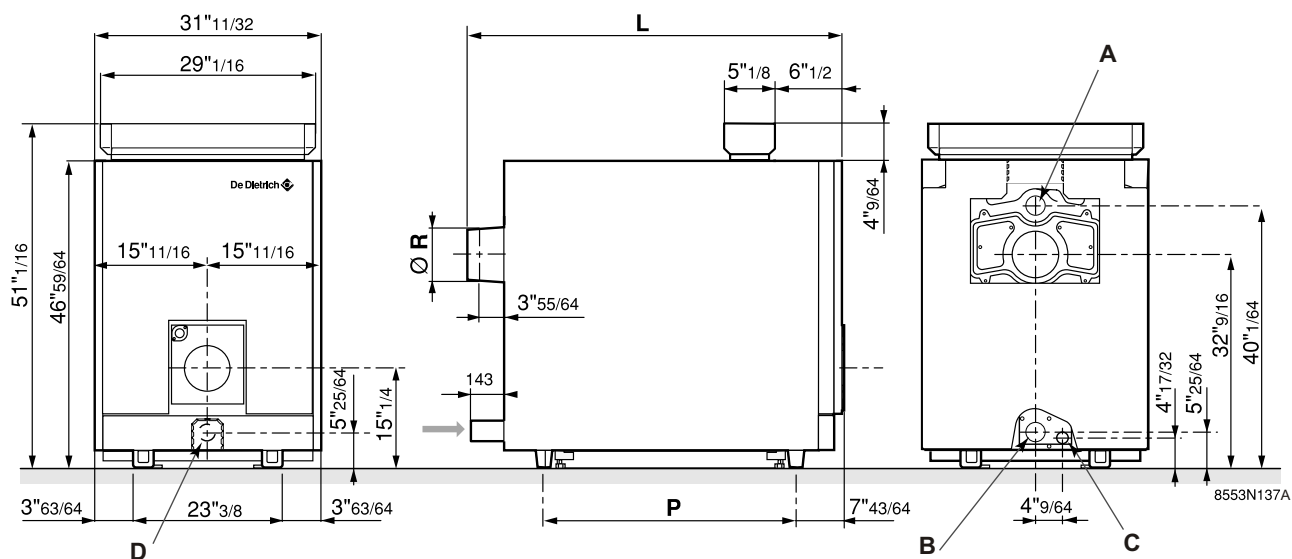
### Note:

- CSA - MBH Output based on Thermal Efficiency Test According to ANSI Z21.13a/CSA 4.9a-2005
- All Models Certified for 0 - 2,000 feet ASL installation altitude, consult factory for higher altitudes
- [NET] MBH Output Factor 1.15, Allowance for Piping and Pickup Losses
- Chamber Resistance Based on Neutral Chimney-Vent Pressure
- Gas Vent Category Based on Several Factors [CO<sub>2</sub> content, Vent Pressure & Net-Flue Gas Temp]
- Approved for Direct-Vent, Use Only Approved Venting as Listed
- Natural Draft Applications, Approved for Type L vent [Gas-Oil] or Type B Vent [Gas Only]
- Conversion Btu to kW = 3,412 Btu per kW
- All Models are Design Certified & Eligible to Bear Approval Marking as Shown.
- All Models Certified to Fire; # 2 oil, Natural & Propane Gases. Consult factory for Available Burners.
- All Models Comply and Certified in Accordance to the latest Canadian & US standards
- To Obtain Current IBR Ratings, consult their publications and website.

Due to ongoing and continuous product improvements, Flexible Eutectic Sales Ltd. Reserves all rights to amend and delete information provided on this product specification table.

## 4 Main Dimensions

### GT 300 A/II



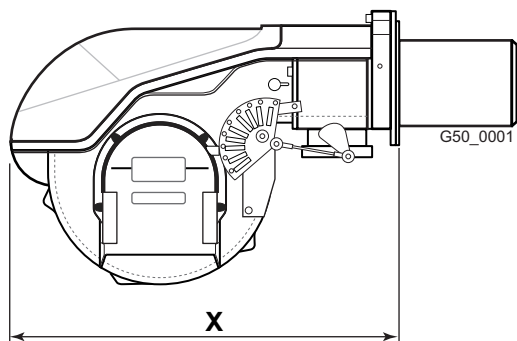
**A** Water flow tapping 2 1/2" NPSC

**C** Drain 1 1/2" FPT

**B** Water return 2 1/2" NPSC

**D** Rp 2 1/2 diameter sludge removal hole

Type of boiler	GT 304 A/II	GT 305 A/II	GT 306 A/II	GT 307 A/II	GT 308 A/II	GT 309 A/II
<b>L</b>	38 <sup>5/8"</sup>	44 <sup>59/64"</sup>	51 <sup>7/32</sup>	57 <sup>33/64"</sup>	63 <sup>13/16"</sup>	70 <sup>7/64"</sup>
<b>P</b>	19 <sup>9/32</sup>	25 <sup>19/32</sup>	31 <sup>7/8</sup>	38 <sup>3/16"</sup>	44 <sup>31/64"</sup>	50 <sup>25/32"</sup>
<b>Ø R</b>	7"	7"	7"	8"	8"	8"



Dimension "X" Max. Burner Length (inches)					
Boiler Model	Riello	Weishaupt	Power Flame	Fuel Master	Gordon Piatt
GT304 A/II	10	19	22 <sup>1/4</sup>	19 <sup>1/4</sup>	26
GT305 A/II					
GT306 A/II	26 <sup>15/32</sup>	23	25 <sup>1/8</sup>		
GT307 A/II					
GT308 A/II					
GT309 A/II					

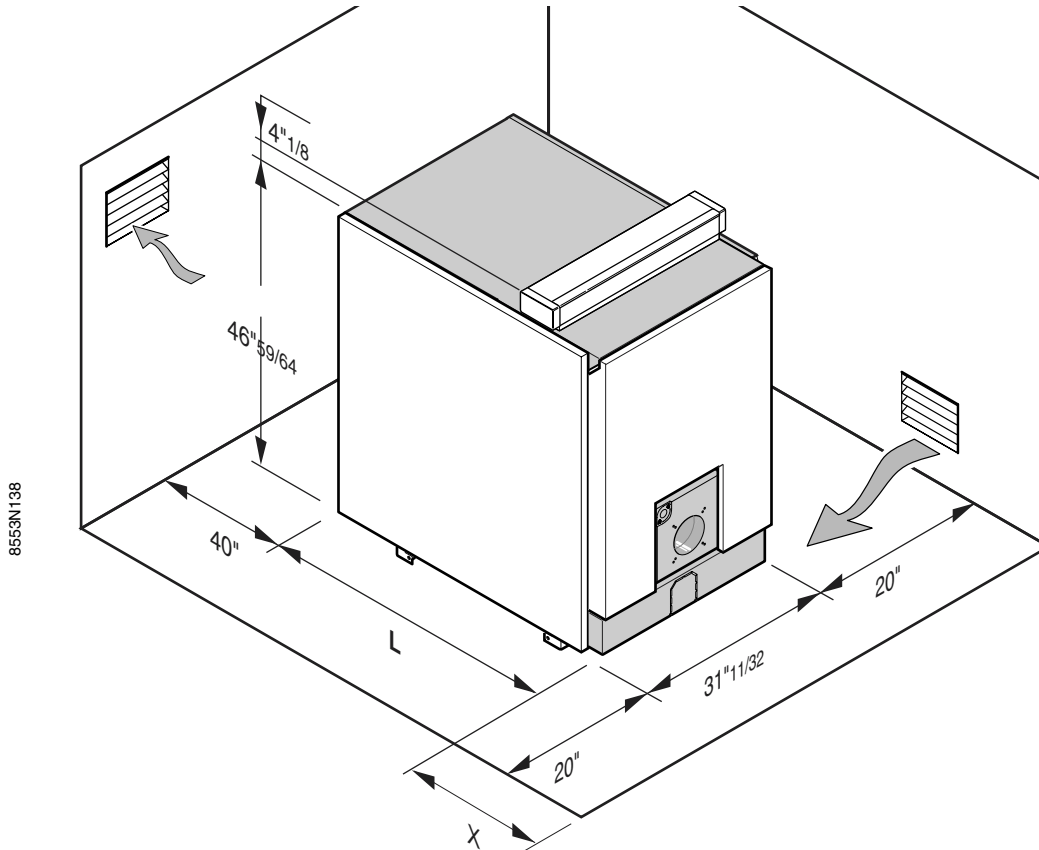
#### Notes:

- Dimension are for gas burner only
- Oil and combination oil/gas, refer to burner manufacturer specifications

# Boiler Installation

## 1 Installation

The GT 300 A/II boiler has a base frame, although a housekeeping pad is recommended to keep steel parts out of casual water. Its furnace is closed, so it is not necessary to place it on a fireproof floor, but the floor must be able to bear the weight.



Boiler type	L
GT 304 A/II	33"
GT 305 A/II	39 <sup>5/16</sup> "
GT 306 A/II	45 <sup>9/16</sup> "
GT 307 A/II	51 <sup>7/8</sup> "
GT 308 A/II	58 <sup>3/16</sup> "
GT 309 A/II	64 <sup>1/2</sup> "

Dimension 'X', consult burner info. additional 24 inches for servicing  
Caution : note additional space required when the burner door is open.  
Multiple installation of several boilers side by side, these dimensions need to be modified.

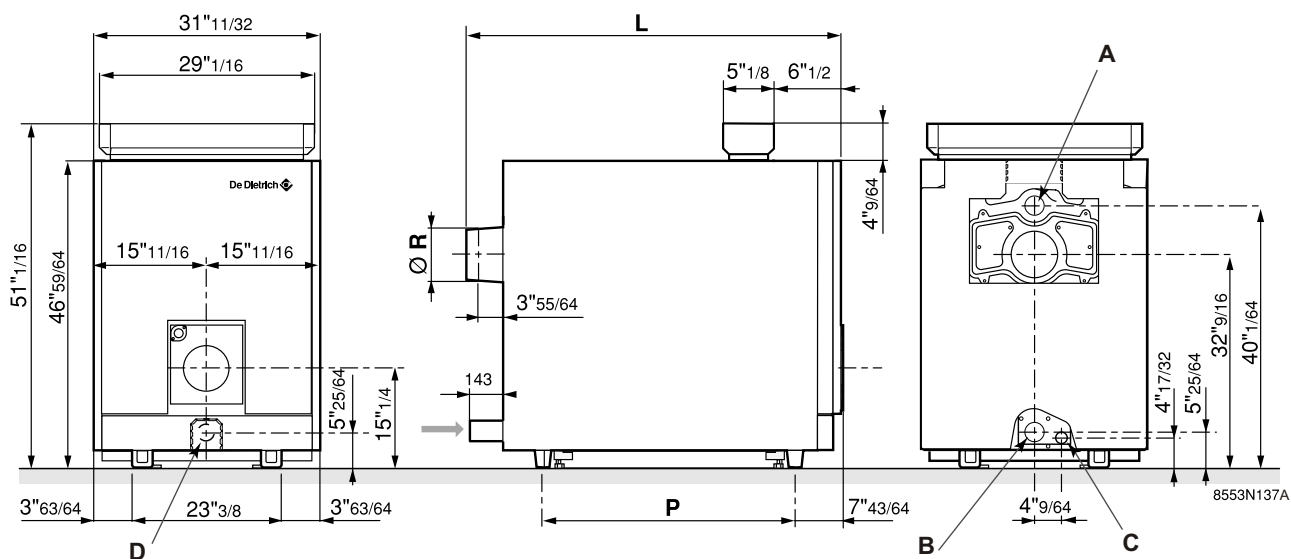
## 2 Combustion Air Supply

Boilers operating in atmospheres that contain fluorides or chlorides such as beauty shops and automotive repair garages where air conditioning services are performed or industrial applications that may have corrosive elements in the air must have a clean source of combustion and ventilation air. Boiler damage by contaminants will void the warranty and any other responsibility or liability of De Dietrich Thermique/FES Ltd.

**Warning:** Ensure boiler room is adequately ventilated and clear and free from combustible materials, gasoline and other flammable vapours and liquids.

## 4 Main Dimensions

### GT 300 A/II



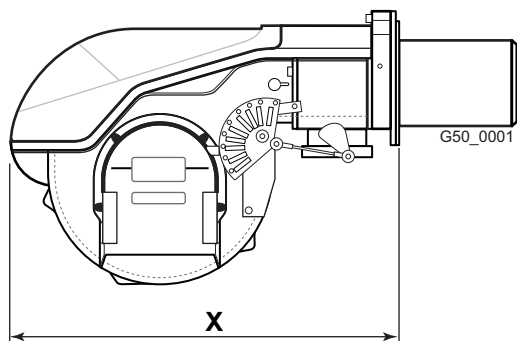
**A** Water flow tapping 2 1/2" NPSC

**C** Drain 1 1/2" FPT

**B** Water return 2 1/2" NPSC

**D** Rp 2 1/2 diameter sludge removal hole

Type of boiler	GT 304 A/II	GT 305 A/II	GT 306 A/II	GT 307 A/II	GT 308 A/II	GT 309 A/II
<b>L</b>	38 <sup>5/8"</sup>	44 <sup>59/64"</sup>	51 <sup>7/32</sup>	57 <sup>33/64"</sup>	63 <sup>13/16"</sup>	70 <sup>7/64"</sup>
<b>P</b>	19 <sup>9/32</sup>	25 <sup>19/32</sup>	31 <sup>7/8</sup>	38 <sup>3/16"</sup>	44 <sup>31/64"</sup>	50 <sup>25/32"</sup>
<b>Ø R</b>	7"	7"	7"	8"	8"	8"



Dimension "X" Max. Burner Length (inches)					
Boiler Model	Riello	Weishaupt	Power Flame	Fuel Master	Gordon Piatt
GT304 A/II	10	19	22 <sup>1/4</sup>	19 <sup>1/4</sup>	26
GT305 A/II					
GT306 A/II	26 <sup>15/32</sup>	23	25 <sup>1/8</sup>	19 <sup>1/4</sup>	26
GT307 A/II					
GT308 A/II					
GT309 A/II					

#### Notes:

- Dimension are for gas burner only
- Oil and combination oil/gas, refer to burner manufacturer specifications



## 5. Boiler Venting & Chimney General



### Caution & Warning:

It is advised and recommended that the heating contractor-professional apply vent materials that are approved and agency listed. Installation of any venting must follow all local codes in conjunction with vent manufacturer instructions and appliance manufacturer instructions.

All De Dietrich GT series oil-gas fired cast iron boilers are high performance boilers that could operate under all 4 vent categories as established by ANSI Z21.13/CSA 4.9 Standard. To assist with application where the vent category is unknown a graph below has been provided to assist you in determining the vent category and what venting materials would be acceptable. Although the gas vent categories were developed specifically for gas fired appliances, using this information is helpful for oil fired boilers. It is very important the venting be selected according to the conditions that the boiler will operate under, minimum and maximum firing conditions of the boiler must be respected. The venting installed must comply and be certified to all applicable codes and standards for each jurisdiction.

### Gas-Vent Category [4] Definitions:

#### Cat. I

A Boiler, which operates with a non-positive vent (breach) pressure and flue gas temperatures which avoids excessive condensation production in the chamber and venting.

#### Cat. II

A Boiler, which operates with a non-positive vent (breach) pressure and flue gas temperatures produce condensation production in the chamber and venting.

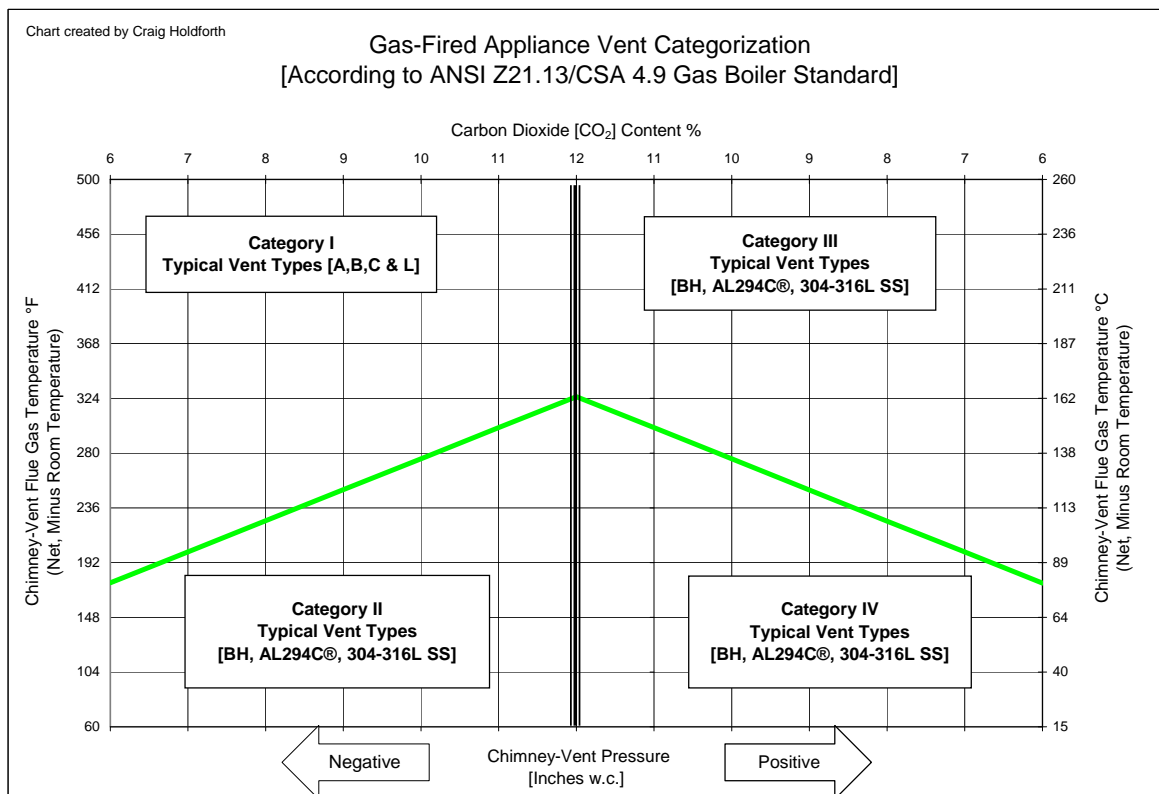
#### Cat. III

A Boiler, which operates with a positive vent (breach) pressure and flue gas temperatures which avoids excessive condensation production in the chamber and venting.

#### Cat. IV

A Boiler, which operates with a positive vent (breach) pressure and flue gas temperatures produces condensation production in the chamber and venting.

**Chart A**



## 5.1 Boiler Venting – Category I & II Typical Layouts and Requirements.



### Caution & Warning:

Improperly sealed venting system could result in carbon monoxide [CO] poisoning; ensure adequate support and fastening of the system. Ensure venting can safely exhaust all flue gases outside in an effective manner. These systems must operate under a negative vent pressure condition that is stable.



### Warning & Cautions for Co-Venting:

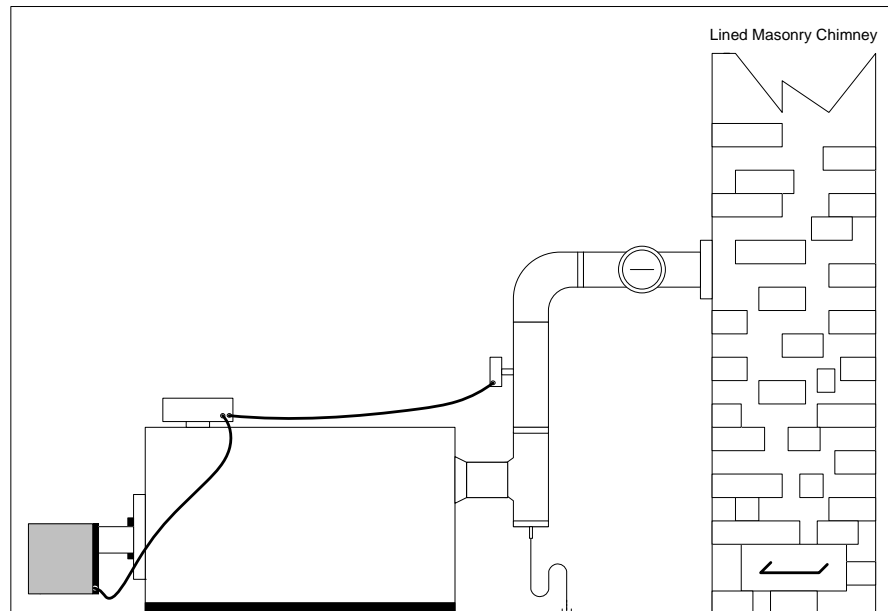
Co-venting with other appliances shall conform latest ANSI Z223.1 & CAN/CGA 149 installation codes, any improper operation shall be corrected, the common venting shall be sized according to the appropriate tables in Part II of the above mentioned codes.

### Category I Vent Systems Requirements:

1. Flue gas temperatures above the green line shown in chart A.
2. Approved type of venting for category I appliances.
3. A barometric draft control maybe employed as required, but is not necessary for correct boiler operation. Consult a chimney-vent specialist for correct application and usage.
4. Breeching and chimney vent sized in accordance to local and national codes or by good engineering methods.
5. Vent safety device equipped on the venting or as equipped on burner.
6. Condensate TEE fitting supplied on the boiler breeching as close as possible and be orientated to avoid accumulation of flue gas condensation in the boiler or venting is also used to determine flue gas emissions.

### Category II Vent Systems Requirements:

1. Flue gas temperatures below the green line shown in chart A.
2. Approved type of venting for category II appliances.
3. A barometric draft control maybe employed as required, but is not necessary for correct boiler operation. Consult a chimney-vent specialist for correct application and usage.
4. Breeching and chimney vent sized in accordance to local and national codes or by good engineering methods.
5. Vent safety device equipped on the venting or as equipped on burner.
6. Condensate TEE fitting supplied on the boiler breeching as close as possible and be orientated to avoid accumulation of flue gas condensation in the boiler or venting is also used to determine flue gas emissions.



### Caution-Warning:

Flue gas condensation is very aggressive and corrosive which could lead to failure of the venting system or drains, consult local and national codes regarding flue gas condensation disposal. The P-trap assembly must be properly filled with water to avoid escape of flue gas emissions. The flue gas condensation may require neutralization prior to entering the drain.

## 5.2 Boiler Venting – Category III & IV Vent Systems Typical Layouts and Requirements.



### Caution & Warning:

Improperly sealed venting system could result in carbon monoxide [CO] poisoning; ensure adequate support and fastening of the system. Ensure venting can safely exhaust all flue gases outside in an effective manner. These systems must operate under a positive vent pressure condition that is stable.



### Warning & Cautions for Co-Venting:

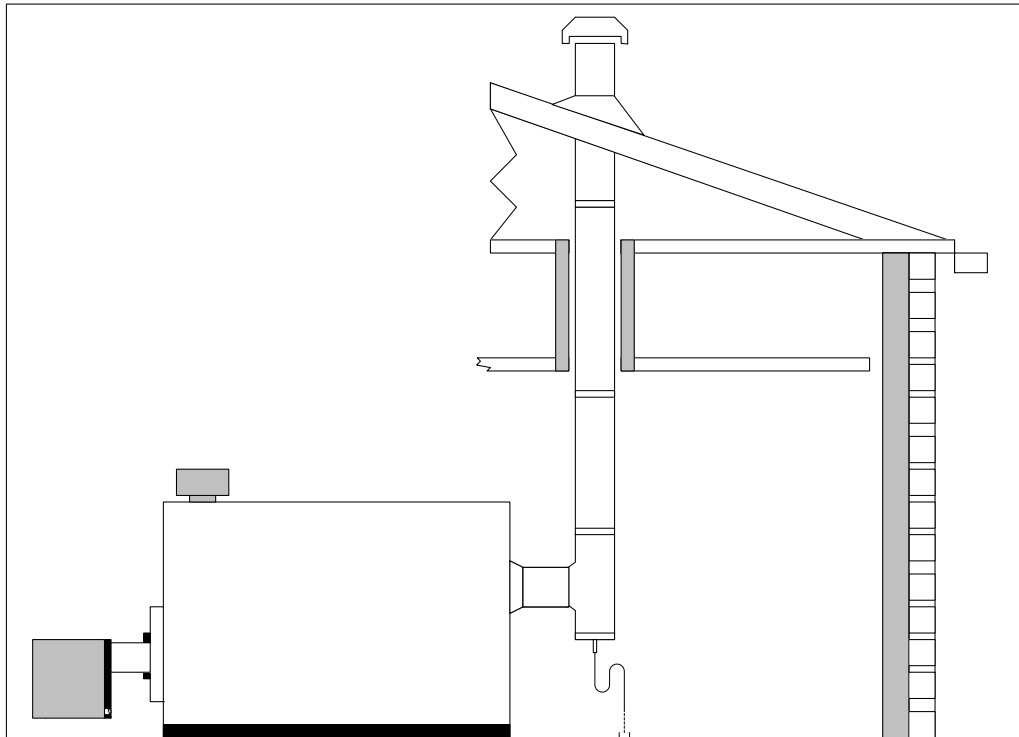
Co-venting with other appliances shall conform latest ANSI Z223.1 & CAN/CGA 149 installation codes, any improper operation shall be corrected, the common venting shall be sized according to the appropriate tables in Part II of the above mentioned codes.

### Category III Vent Systems Requirements:

1. Flue gas temperatures above the green line shown in chart A.
2. Approved type of venting for category III appliances
3. Breeching and chimney diameter sized in accordance to national & local codes or by good engineering methods.
4. Vent safety device equipped on burner [MR]
5. Condensate TEE fitting supplied on the boiler breeching as close as possible and be orientated to avoid accumulation of flue gas condensation in the boiler or venting.

### Category IV Vent Systems Requirements:


1. Flue gas temperatures below the green line shown in chart A.
2. Approved type of venting for category IV appliances
3. Breeching and chimney diameter sized in accordance to national & local codes or by good engineering methods.
4. Vent safety device equipped on burner [MR]
5. Condensate TEE fitting supplied on the boiler breeching as close as possible and be orientated to avoid accumulation of flue gas condensation in the boiler or venting.



### Caution-Warning:

Flue gas condensation is very aggressive and corrosive which could lead to failure of the venting system or drains, consult local and national codes regarding flue gas condensation disposal. The P-trap assembly must be properly filled with water to avoid escape of flue gas emissions. The flue gas condensation may require neutralization prior to entering the drain.

### 5.3 Boiler Venting – Side-Wall or Direct Vent Systems Typical Layouts and Requirements.

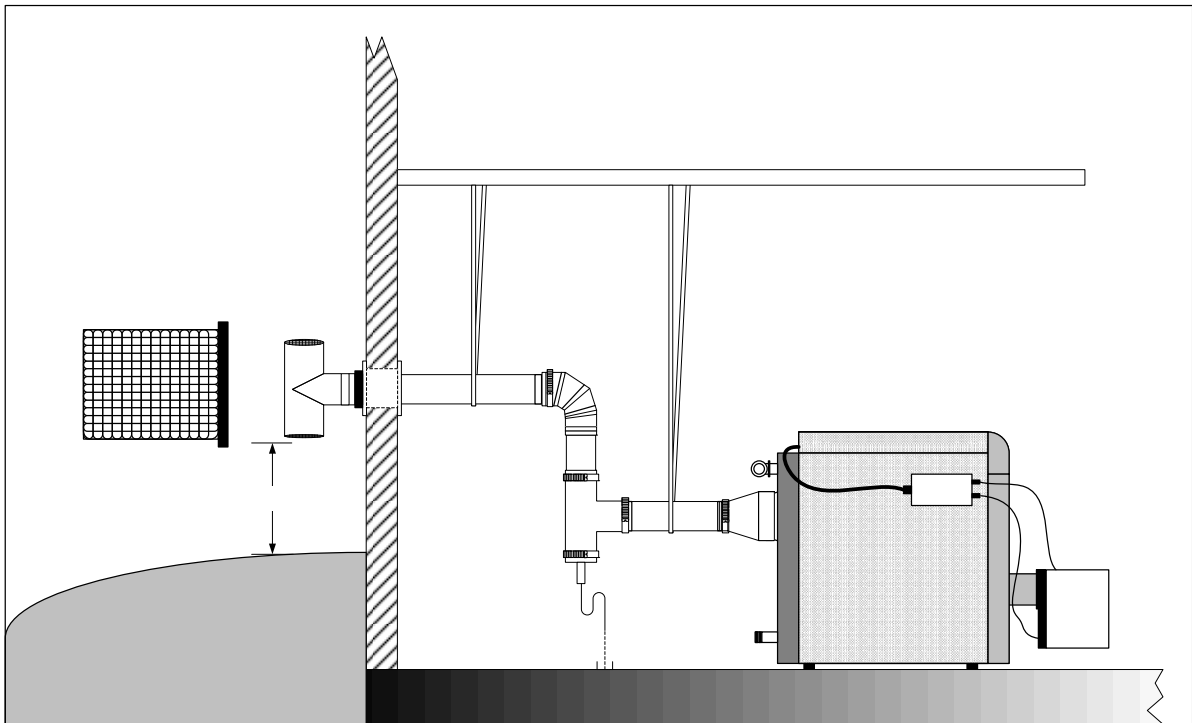
**CAUTION**  **Caution & Warning:** Improperly sealed venting system could result in carbon monoxide [CO] poisoning; ensure adequate support and fastening of the system. Ensure venting can safely exhaust all flue gases outside in an effective manner. These systems must operate under a positive vent pressure condition that is stable. Do not Co-Vent with any other appliance, the venting system was designed for single appliance venting only.

#### Side-wall & Direct Vent Systems:

These systems do not fall under any of the gas vent categories, these systems are pre-engineered. These applications of this venting system must be followed exactly, for safe, efficient and trouble free operation.

#### System Requirements:

1. Venting sized accordance to direct vent table
2. Type “BH” [AL294C®] vent material
3. Condensate TEE fitting supplied on the boiler breeching as close as possible and be orientated to avoid accumulation of flue gas condensation in the boiler or venting is also used for determining flue gas emissions.
4. Vent termination TEE
5. Vent safety device equipped on burner [MR]



Vent Termination Locations & Warning – See Section 5.5

#### Caution-Warning:

Flue gas condensation is very aggressive and corrosive which could lead to failure of the venting system or drains, consult local and national codes regarding flue gas condensation disposal. The P-trap assembly must be properly filled with water to avoid escape of flue gas emissions. The flue gas condensation may require neutralization prior to entering the drain.

## 5.4 Boiler Venting – Side-wall or Direct Vent Systems Sizing Tables & Vent Safety Device

- All venting lengths must be calculated to equivalent lengths, all application must include at least one 90° elbow
- Venting must be a type 'BH' [AL294C® material]
- Maximum vent length [equivalent] = 30 ft. [9m]
- Minimum vent length [equivalent] 5 ft. [1.5m]
- Maximum number of 90° elbows = 2 or 3 45° elbows, each 90° elbow is equivalent to 10 ft. or straight pipe, the 45° elbow is equivalent = 5 ft.
- Condensate TEE must be provided [equivalent length = 7 ft.]
- Appliance reducing adapter [equivalent length 3 ft.]
- Sealed combustion, combustion air intake sizing, must be sized according to the burner manufacturers instructions
- Vent [breaching] pressure shall not exceed 0.20 inches w.c. [0.50 mbar]
- Vent termination must be a TEE type, follow warning regarding termination locations. Do not include the termination TEE length in the vent length calculation.
- Venting shall be sloped, so any condensation developed will drain through the condensate TEE fitting
- Vent safety device, differential air pressure switch [manual reset] NC switch opens on rise of pressure.
- Optional function of power burners which can employ an post purge function to exhaust flue gases for a fixed time [1 minute to 4 minutes maximum]
- Burner employing a standby air damper closed position, the closed position should be slightly opened to allow hot flue gases to escape upward through venting and not be entrapped in the combustion head. Important note, that in negative building pressures, the observation and odor of flue gases may enter the boiler room.

### Determining vent length [equivalent] Example:

Appliance reducing adapter	[x1] = 3 ft.
Condensate TEE	[x1] = 7 ft.
12" vent straight vent pipe	[x3] = 3 ft.
Elbow 90°	[x1] = 10 ft.
Termination TEE	[x1] = 0 ft.
Length [equivalent] =	23 ft.

**GT 300 A/II Series**

Model	Boiler Connection ø	Oil-Gas Vent ø	[Δp] Pressure switch Setting [inches w.c.]
GT 304 A/II	7 inch	5 inch	Set vent safety pressure switch 150% above burner gas manifold or head pressure setting
GT 305 A/II	7 inch	5 inch	
GT 306 A/II	7 inch	5 inch	
GT 307 A/II	8 inch	6 inch	
GT 308 A/II	8 inch	6 inch	
GT 309 A/II	8 inch	6 inch	

**GT 400 A Series**

Model	Boiler Connection ø	Oil-Gas Vent ø	[Δp] Pressure switch Setting [inches w.c.]
GT 408 A	10 inch	8 inch	Set vent safety pressure switch 150% above burner gas manifold or head pressure setting
GT 409 A	10 inch	8 inch	
GT 410 A	10 inch	8 inch	
GT 411 A	12 inch	10 inch	
GT 412 A	12 inch	10 inch	
GT 413 A	12 inch	10 inch	
GT 414 A	12 inch	10 inch	

**GTE 500 A Series**

Model	Boiler Connection ø	Oil-Gas Vent ø	[Δp] Pressure switch Setting [inches w.c.]
GTE 515 A	16 inch	12 inch	Set vent safety pressure switch 150% above burner gas manifold or head pressure setting
GTE 516 A	16 inch	12 inch	
GTE 517 A	16 inch	12 inch	
GTE 518 A	16 inch	12 inch	
GTE 519 A	16 inch	12 inch	
GTE 520 A	16 inch	12 inch	

Model	Boiler Connection ø	Oil-Gas Vent ø	[Δp] Pressure switch Setting [inches w.c.]
GTE 521 A	16 inch	12 inch	Set vent safety pressure switch 150% above burner gas manifold or head pressure setting
GTE 522 A	18 inch	14 inch	
GTE 523 A	18 inch	14 inch	
GTE 524 A	18 inch	14 inch	
GTE 525 A	18 inch	14 inch	

## 5.5 All Side-wall and direct Vent termination locations installation precautions:



### Warning/Caution:

In all cases avoid potential vent termination locations where excess debris or snow could accumulate and block the vent termination to any degree.

Minimum clearance of 4 ft. [1.22m] horizontally from, and in no case above or below, unless a 4 foot [1.22m] horizontal distance is maintained, from electric meters, gas meters, regulators & relief equipment.

Do Not Co-Vent Any Direct Vent or Sidewall Venting System

### B149.1 (GAS INSTALLATIONS CANADA)

#### A VENT SHALL NOT TERMINATE.....

Directly above a paved sidewalk or driveway which serves 2 buildings.

Less than 7 ft. any paved sidewalk or drive way

Less than 6 ft. of a combustion air inlet to any building

Less than 4 ft. above a meter/regulator assembly [horizontally] of the vertical center-line of the regulator vent outlet to a maximum vertical distance of 15 ft.

Less than 4 ft. of any gas service regulator vent outlet

Less than 1 ft. above grade or normal anticipated snow level for the area

Less than 3 ft. from windows, doors [that can be opened], combustion air supply or any appliance or building.

Underneath a veranda, porch or deck unless:

1. The veranda, porch or deck is fully open on a minimum of 2 sides beneath the floor &
2. The distance between the top of the vent termination and the underside of the veranda, porch or deck is greater than 1 ft.

### B139-00 (OIL INSTALLATIONS CANADA)

#### A VENT SHALL NOT TERMINATE.....

Directly above a paved sidewalk or driveway which serves 2 buildings.

Less than 7 ft. any paved sidewalk or drive way

Less than 6 ft. from an open-able window, door or mechanical combustion air supply

Less than 6 ft. of any combustion air inlet

Less than 3 ft. of the vertical centerline of the meter/regulator assembly on a horizontal plane perpendicular to the regulator

Less than 6 ft. of gas service regulator vent outlet

Less than 4 ft. of oil tank vent or oil tank fill inlet

Less than 1 ft. above grade or normal anticipated snow level for the area.

Within 6 ft. of a property line

Underneath a veranda, porch or deck

Flue gases are within 6 ft. of combustible material or any openings of surrounding buildings.

Less than 3 ft. from an inside corner or L-shaped structure

Where flue gases may be directed towards brickwork, siding or other construction that may cause damaged from heat or condensate from the flue gases.

### NFPA 54 / ANSI Z223 (GAS INSTALLATIONS USA)

#### A VENT SHALL NOT TERMINATE.....

Less than 3 ft. of any combustion air inlet source located within 10 ft.

Less than 1 ft. from any obstructions

Less than 1 ft. above grade or normal anticipated snow level for the area.

Over public walkways, driveways or other areas where condensate or vapor could create nuisance or hazard or could be detrimental to the operation of regulators, relief's, valves or other equipment

### NFPA 31 (OIL INSTALLATIONS USA)

#### A VENT SHALL NOT TERMINATE.....

Less than 5 ft. from vent outlet of the supply tank

Less than 7 ft. above walkways

Less than 1 ft. from any door, window or air inlet source

Less than 1 ft. from grade or snow level.

Less than 3 ft. from a air intake that is within 10 ft

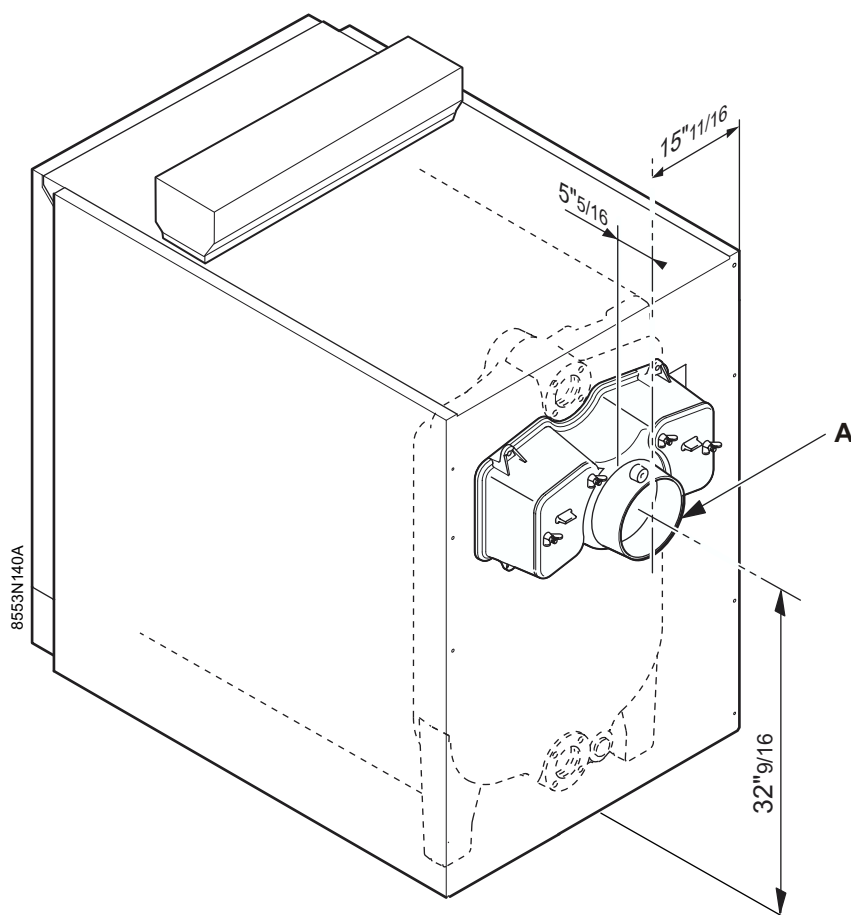
Less than 1 ft. from soffit of the roof

Less than 3 ft. from any building corner or L shape structure



### WARNING-CAUTION

Consult Local Codes & Authorities for other Requirements not mentioned



**A : chimney connection :**

GT 304 A/II to GT 306 A/II : 7"  $\varnothing$

GT 307 A/II to GT 309 A/II : 8"  $\varnothing$

## Oil or gas connections

### 1 Specific technical information supplied with the burner

- The boiler and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5kPa),
- The boiler must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa),
- The boiler shall be installed such that the gas ignition system components are protected from water (dripping, spraying, rain, etc.) during appliance operation and service (circulator replacement, condensate trap, control replacement, etc.),
- The boiler and its gas connection must be leak tested before placing the boiler in operation,
- After placing the boiler in operation, the ignition system safety shutoff device must be tested,
- Provision for vent, bleed and gas relief lines (when applicable),
- A sediment trap must be provided upstream of the gas controls,
- Location of manual main shutoff valve outside the jacket when codes require.

## 1 Wiring

Wiring in accordance with the requirements of the authority having jurisdiction or, in the absence of such requirements, with the Canadian Electrical Code Part 1, CSA C22.1, Electrical Codes.

## 2 Wiring procedure

De Dietrich boiler suggested field wiring procedure.

**1** : Top view

**2** : Boiler panel

**3** : Front

**A** : Race ways located under top panel of boiler

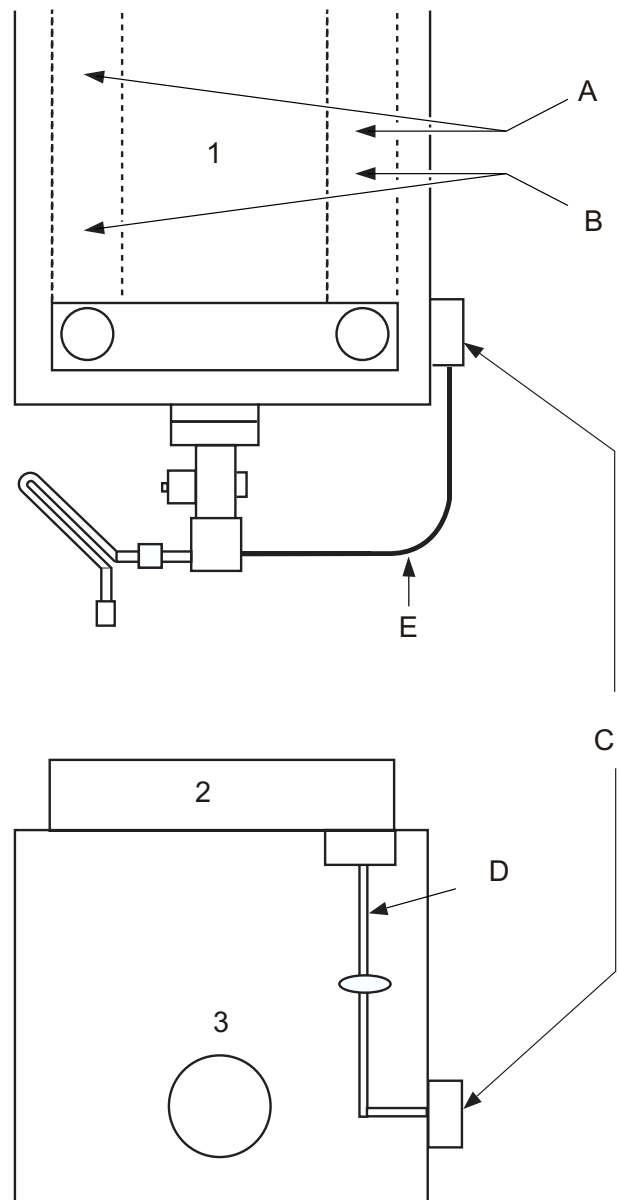
**B** : Wiring to be run in electrical race way to boiler control panel from ancillaries

Main power to 4x4 junction box or enter rear of boiler through race way.

**C** : 4x4 junction box location

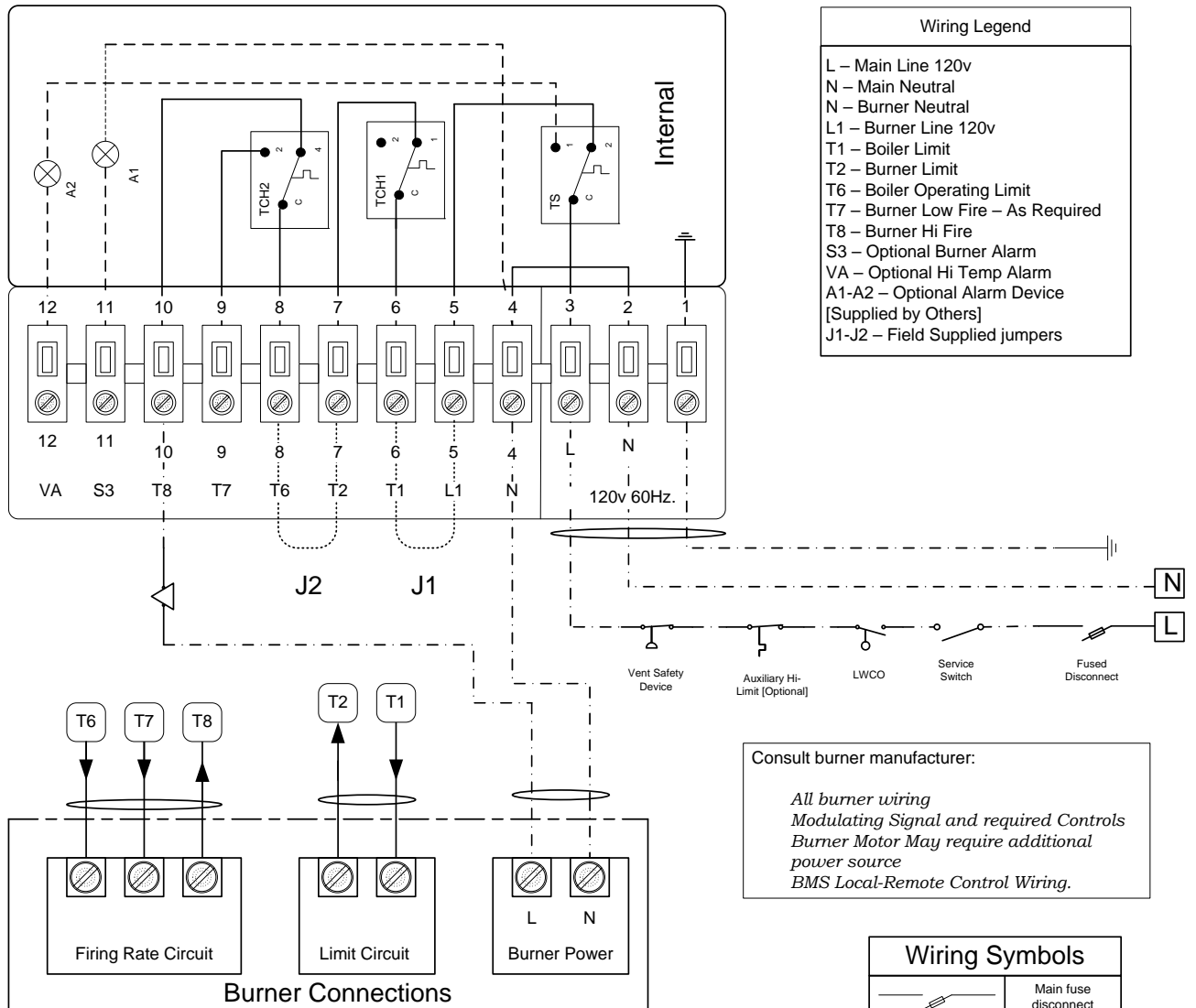
**D** : Run BX cable between insulation and casing from boiler panel

**E** : Allow extra cable to swing burner open





# Flexible Eutectic Sales Ltd. [De Dietrich North America] FA 122 Panel – Boiler Controller



Consult burner manufacturer:

All burner wiring  
Modulating Signal and required Controls  
Burner Motor May require additional  
power source  
BMS Local-Remote Control Wiring.



**WARNING - CAUTION:**

ALL ELECTRICAL CONNECTIONS  
MAYBE FROM MULTIPLE SOURCES

**Application Note for BMS or BAS systems:**  
The Local-Remote switch or enable/disable forced relay,  
must interrupt the TCH2 control . The TS & TCH1 limits  
must remain in the limit circuit.

## Panel Wiring Options:

- On-Off Control [Single stage burners]  
use jumper as shown
- 2 Stage Control [2 Stage burners]  
Remove jumper 2 install firing rate control from burner  
T6 – T8
- Progressive Modulating Control  
[Multi-Stage burners]  
Remove jumper 1  
Installed burner limit circuit between T1 & T2  
Remove jumper 2  
Install burner firing rate control between T6 [common]  
T7 [min rate] & T8 [max rate]

## Wiring Symbols

	Main fuse disconnect 6A 120V max
	Service Switch [Others]
	LWCO Device [As required]
	Vent Safety Device [NC]
	Burner Safety Interlock – Optional [Others]
	Auxiliary limit – Optional [Others]
	120V Alarm indicator [Others]
	Factory Wiring
	Field Wiring [Others]
	Alarm Wiring [Others]
	Jumper Wiring [Others]
	Strain Relief [Others]

## 1 Wiring

Wiring in accordance with the requirements of the authority having jurisdiction or, in the absence of such requirements, with the Canadian Electrical Code Part 1, CSA C22.1, Electrical Codes.

## 2 Wiring procedure

De Dietrich boiler suggested field wiring procedure.

**1** : Top view

**2** : Boiler panel

**3** : Front

**A** : Race ways located under top panel of boiler

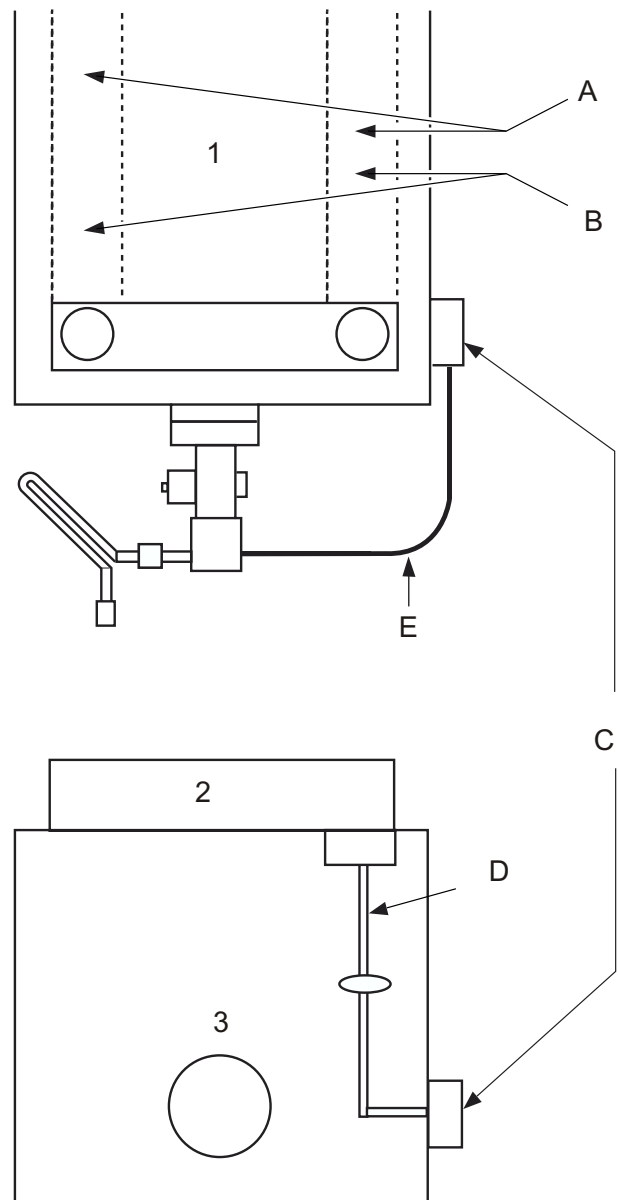
**B** : Wiring to be run in electrical race way to boiler control panel from ancillaries

Main power to 4x4 junction box or enter rear of boiler through race way.

**C** : 4x4 junction box location

**D** : Run BX cable between insulation and casing from boiler panel

**E** : Allow extra cable to swing burner open



## FOR YOUR SAFETY READ BEFORE OPERATING



**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

**A.** This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

**B.** BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

### WHAT TO DO IF YOU SMELL GAS

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

**C.** Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it: call a qualified service technician. Force or attempted repair may result in a fire or explosion.

**D.** Do not use this appliance if any part has been under water. Immediately call a qualified technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

### 1 Start up procedures

---

- Inspect for proper baffling insertion into flue passes. All clean-out doors properly sealed. Burner door closed and properly latched.
- Gas and oil systems ready. Proper vent connections. Required combustion and ventilation air provided.
- Waterside of system properly filled and vented of air.
- Lighting instruction followed.
- To be performed by a licensed tradesperson in accordance with the guidelines shown in this manual. Follow burner manufacturer's instructions.
- Mandatory factory start-up report to be completed and returned to comply with the warranty process.
- Proper operating instructions of equipment to be related to operating personnel.

### 2 Shut-down procedures

---

- Disengage all electrical power switches to heating system burners, pumps. Isolate all boiler valves and fuel valves.
- For off-season shutdown, open boiler combustion flue ways and clean. Ensure venting, chimney, combustion and ventilation air openings free from blockage. Do not drain waterside of system.
- Shutoff fuel supply lines

### 1 Boiler

It is not advisable to drain an installation, except in case of absolute necessity. Check the water level of the installation and top it off if necessary, avoiding a sudden inlet of cold water in the hot boiler.

Check for system leaks.

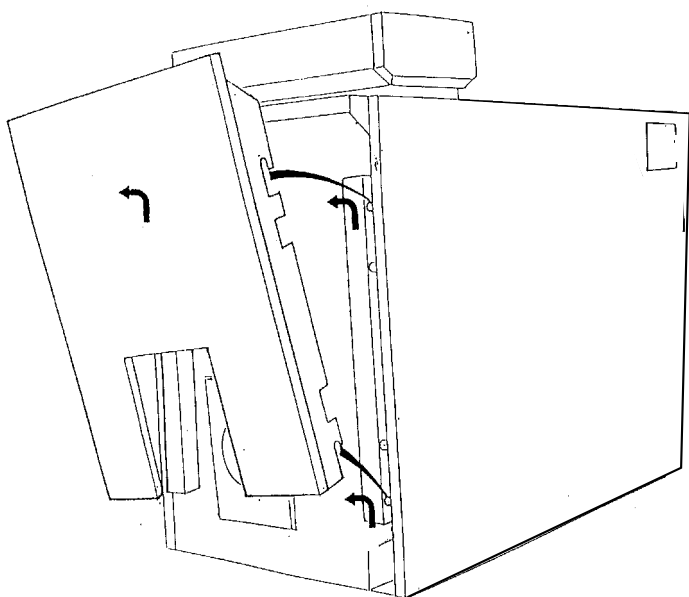
Professional water treatment is recommended.

**The good performance of the boiler depends on cleanliness.**

Cleaning the boiler must be carried out as often as required and at least, as for the flue once a year. The following operations are always carried out with the boiler and the power supply shut off.

- **Cleaning of the flue gas circuit :**

- switch off the electricity supply to the boiler
- unhook the front cover



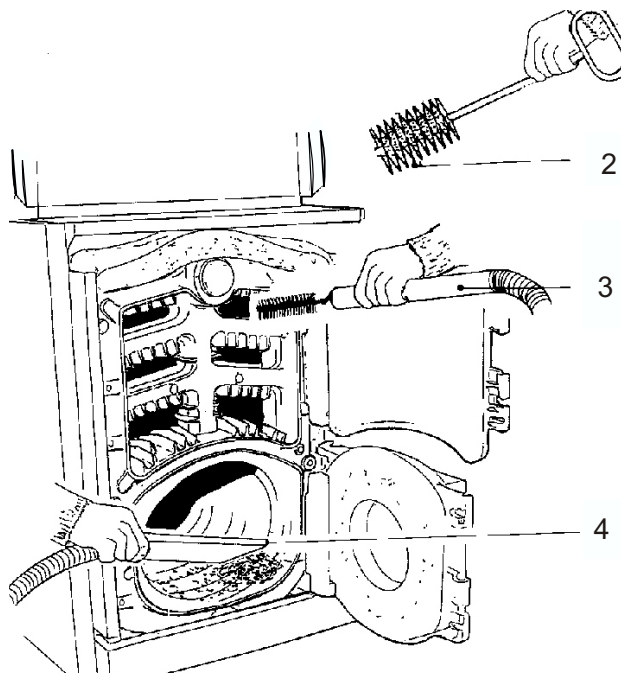
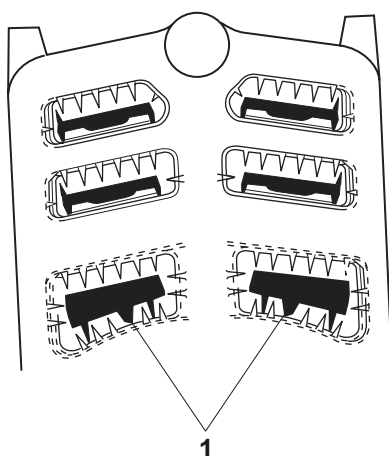
- open the sweeping door (upper door) by unscrewing the 4 lock nuts.
- remove the convection baffles,
- using the brush supplied, carefully sweep the 6 flue sections,

- also brush the convection baffles and the front face,
- if possible use a vacuum cleaner,
- put the convection accelerators back in place (pay attention to their direction),
- shut the door.

#### • Maintenance of the combustion chamber

- open the combustion chamber door (lower door) by unscrewing the 4 lock nuts
- brush the inside of the combustion chamber

- using a vacuum cleaner, vacuum up the soot deposits which have accumulated in the combustion chamber
- close the door and replace the front cover



1 : stop pins

2 : brush

3 : vacuum cleaner brush

4 : vacuum cleaner

Baffle Position	Baffle	Fraction	mm	GT 304 A/II	GT 305 A/II	GT 306 A/II	GT 307 A/II	GT 308 A/II	GT 309 A/II
Upper [3rd Pass]	8219-0017	16 1/4	410	0	8	8	4	0	0
Middle [2nd Pass]	8219-0018	22 7/16	570	4	0	0	4	8	8
Lower [1st Pass]	8219-0019	16 1/4	412	2	2	2	2	4	2
	8219-0020	22 1/2	572	0	0	0	0	0	2

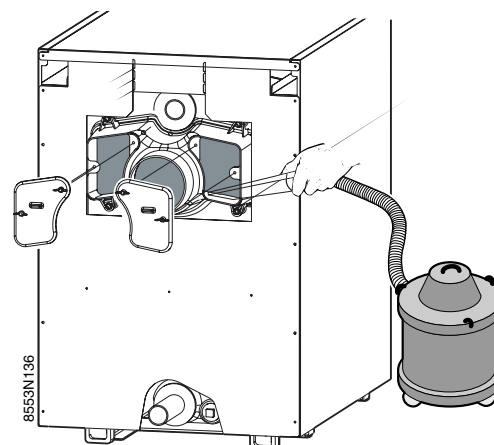
#### • Cleaning the smoke box (Flue Hood)

For this purpose :

- remove the sweeping left and right hand covers of the smoke box (2 wing nuts) and remove the soot which has accumulated using a vacuum cleaner
- replace the sweeping covers.

#### • Burner maintenance :

In accordance with the directions supplied with the burner.



## Service and maintenance schedule

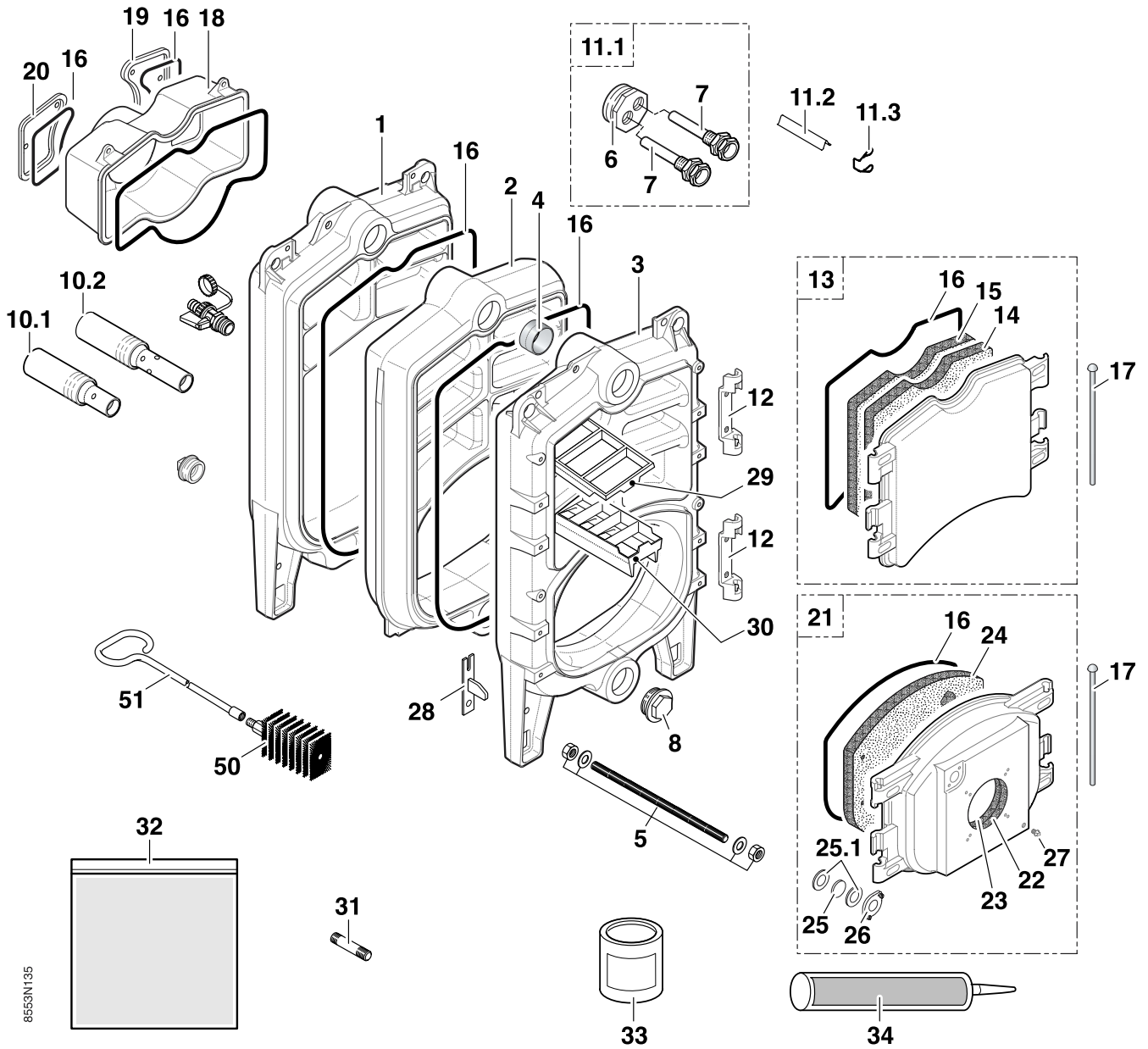
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- ▶Require annual system inspection of the heating boiler, burner and controls by qualified service personnel,
- ▶Heating system check for safety control functions, system pressure, leaks, combustion and ventilation air should be done on a monthly schedule.

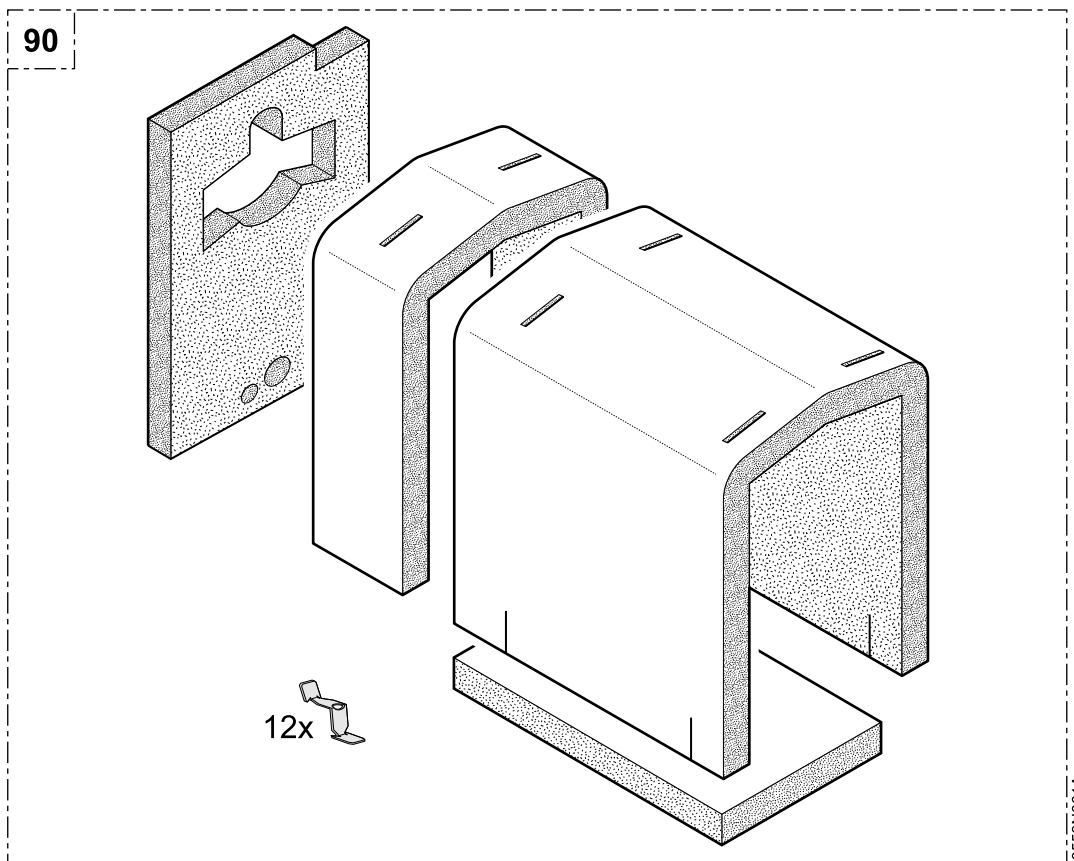
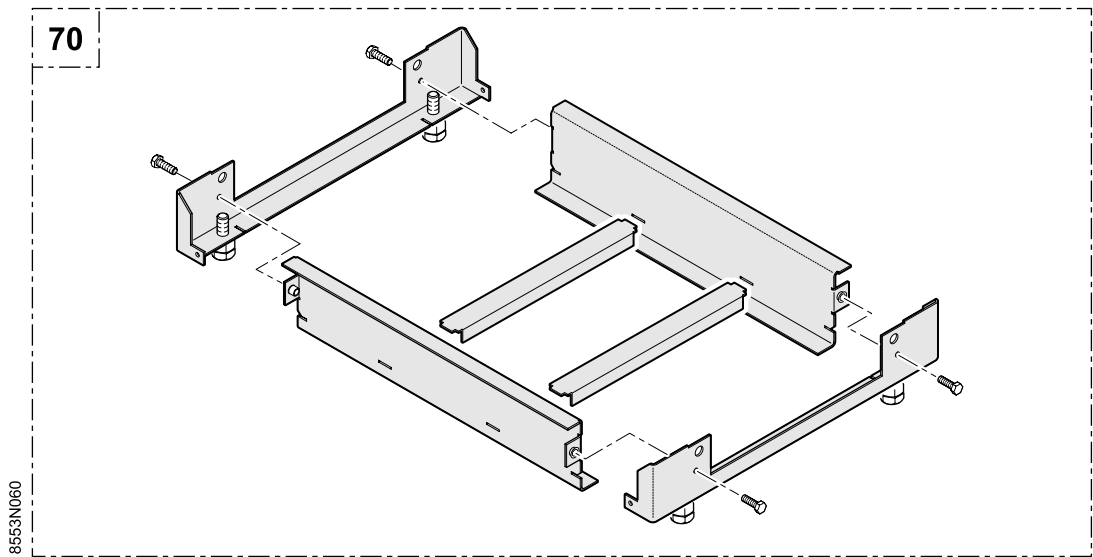


While ordering spare parts, do not forget to provide the code number given opposite the part reference.

## BOILER BODY AND ACCESSORIES

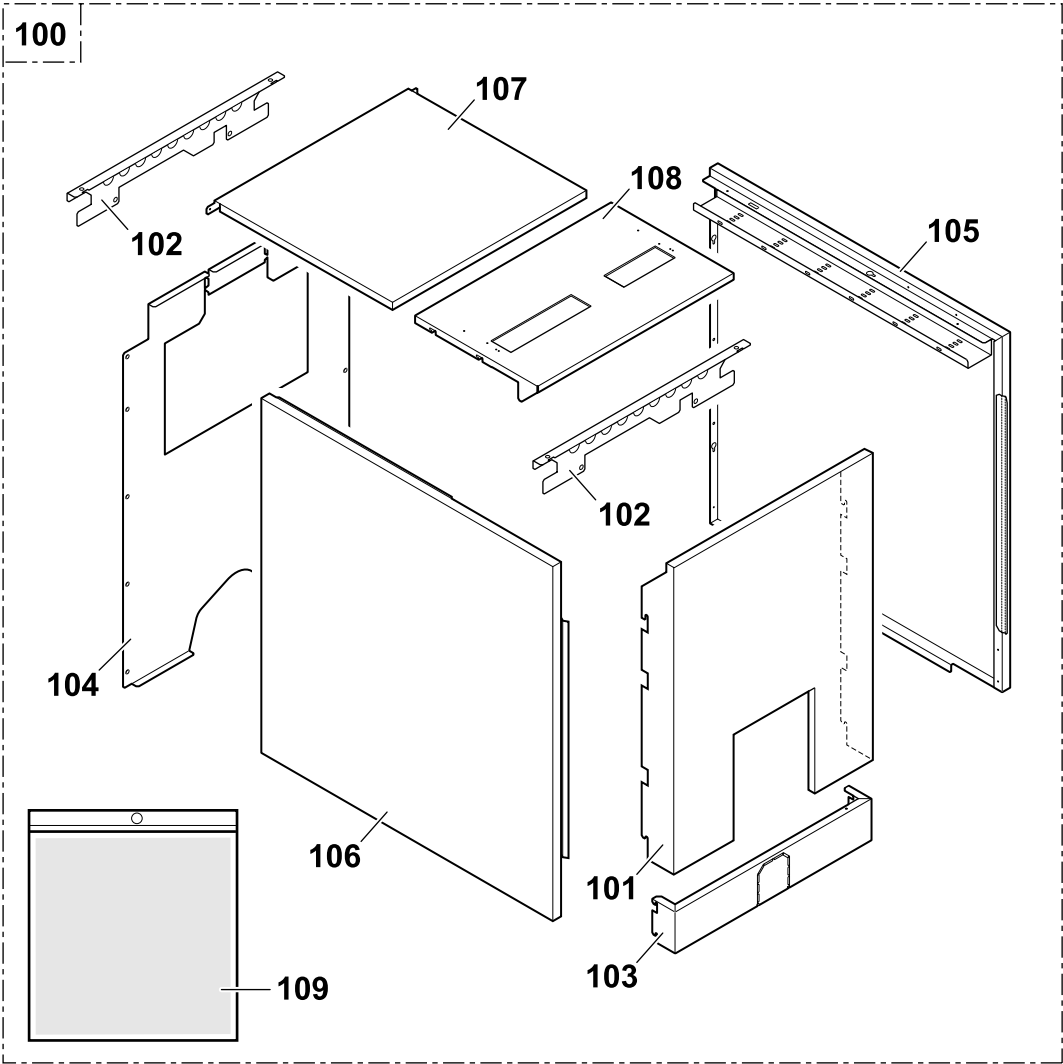


BASE FRAME + INSULATION

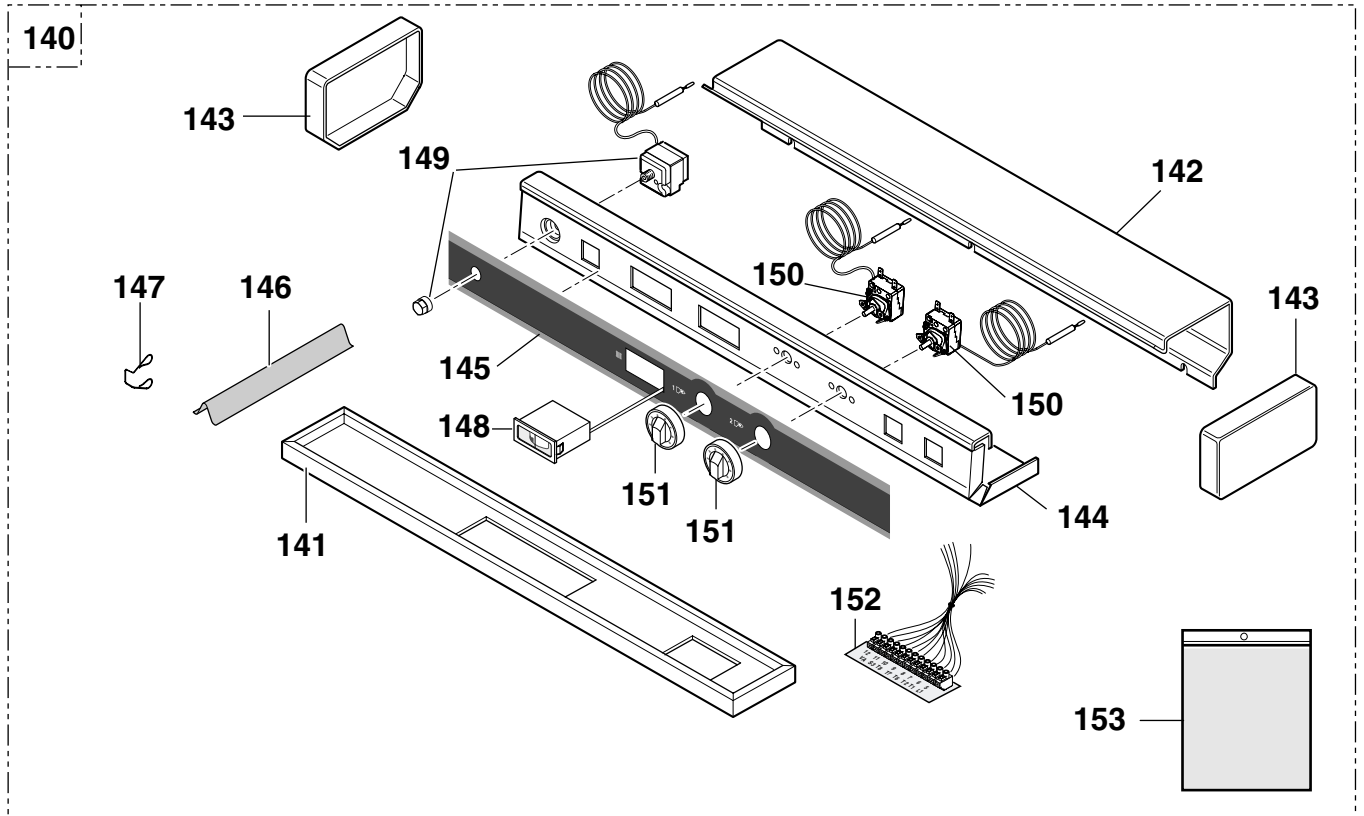




CASING



## CONTROL PANEL



153 : fasteners for control panel

Ref.	Code no.	DESCRIPTION
<b>BOILER BODY</b>		
1	8219-0032	Complete rear section
2	8219-8966	Complete intermediate section
3	8219-8976	Complete front section
4	8116-0571	Nipple
5	8219-8944	Complete 4 section assembly rod
5	8219-8945	Complete 5 section assembly rod
5	8219-8946	Complete 6 section assembly rod
5	8219-8947	Complete 7 section assembly rod
5	8219-8948	Complete 8 section assembly rod
5	8219-8949	Complete 9 section assembly rod
6	8209-0049	2 1/2" plug with 2 holes
7	9536-5611	Well
8	8209-0048	Plein plug
10.1	9754-9934	Water balancing tube GT 306 A to GT 308 A
10.2	9754-9935	Water balancing tube GT 309 A
11.1	8209-8948	2 1/2" plug with 2 holes + well
11.2	9536-5613	Separator for well
11.3	9758-1286	Spring for well
12	8104-8984	Hinge
13	8219-8916	Complete cleaning door
14	9425-0306	Internal cleaning door insulation
15	9425-0305	External cleaning door insulation
16	9508-6032	Ø 10 thermocord
17	9756-0203	Pin for hinge
18	8219-8913	Complete nozzle Ø 180 - 4 to 6 sections
18	8219-8914	Complete nozzle Ø 200 - 7 to 9 sections
19	8219-0206	Right nozzle plug
20	8219-0207	Left nozzle plug
21	8219-8953	Complete burner door Ø 135 mm
21	8219-8729	Complete burner door Ø 190 mm
22	9425-0303	Internal burner door protection
23	9425-0302	Intermediate burner door protection
24	9425-0301	External burner door insulation
25	9500-6017	Glass for inspection window
25.1	9501-0080	Gaskets for inspection window
26	9757-0027	Inspection flange
27	9495-0050	1/4" plug
28	8219-0539	Guide flap for burner door
29	8219-0017	Upper baffles length 410 mm
29	8219-0018	Upper baffles length 570 mm
30	8219-0019	Lower baffles length 412 mm
30	8219-0020	Lower baffles length 572 mm
31	9601-0107	M8-60/52 studs

Ref.	Code no.	DESCRIPTION
31	9601-0260	M12x33/26 studs
31	9601-0302	M12x61/57 studs
32	8219-8957	Bag of screws for boiler body
33	9430-5027	Putty for nipples
34	9428-5095	Silicone putty tube
<b>MISCELLANEOUS</b>		
50	9750-5025	Brush
51	9750-5076	Brush rod length 1000 mm
51	9750-5060	Brush rod length 1300 mm
<b>BASE FRAME</b>		
70	8553-7060	Complete base frame, 4 sections - package FD 30
70	8553-7061	Complete base frame, 5 sections - package FD 31
70	8553-7062	Complete base frame, 6 sections - package FD 32
70	8553-7063	Complete base frame, 7 sections - package FD 33
70	8553-7064	Complete base frame, 8 sections - package FD 34
70	8553-7065	Complete base frame, 9 sections - package FD 35
<b>INSULATING MATERIAL</b>		
90	8553-5507	Complete boiler body insulation, 4 sections
90	8553-5508	Complete boiler body insulation, 5 sections
90	8553-5509	Complete boiler body insulation, 6 sections
90	8553-5510	Complete boiler body insulation, 7 sections
90	8553-5511	Complete boiler body insulation, 8 sections
90	8553-5512	Complete boiler body insulation, 9 sections
<b>CASING</b>		
100	8553-5500	Complete casing, 4 sections
100	8553-5501	Complete casing, 5 sections
100	8553-5502	Complete casing, 6 sections
100	8553-5503	Complete casing, 7 sections
100	8553-5504	Complete casing, 8 sections
100	8553-5505	Complete casing, 9 sections
101	8219-1000	Insulated front panel
102	8553-8000	Upper fastening bracket
103	8553-5506	Insulated lower cover
104	8553-8519	Complete rear panel
105	8553-8500	Right-hand side panel, 4 sections
105	8553-8501	Right-hand side panel, 5 sections
105	8553-8502	Right-hand side panel, 6 sections
105	8553-8503	Right-hand side panel, 7 sections
105	8553-8504	Right-hand side panel, 8 sections
105	8553-8505	Right-hand side panel, 9 sections
106	8553-8506	Left-hand side panel, 4 sections

Ref.	Code no.	DESCRIPTION
106	8553-8507	Left-hand side panel, 5 sections
106	8553-8508	Left-hand side panel, 6 sections
106	8553-8509	Left-hand side panel, 7 sections
106	8553-8510	Left-hand side panel, 8 sections
106	8553-8511	Left-hand side panel, 9 sections
107	8553-8512	Rear cover, 4 sections
107	8553-8513	Rear cover, 5 sections
107	8553-8514	Rear cover, 6 sections
107	8553-8515	Rear cover, 7 sections
107	8553-8516	Rear cover, 8 sections
107	8553-8517	Rear cover, 9 sections
108	8553-8518	Complete front cover
109	8553-8520	Bag of casing fasteners

CONTROL PANEL (FA 122)		
140	8555-7377	Complete control panel
141	8219-0508	Base for control panel
142	8219-0502	Top cover for control panel
143	9755-0143	Side cover
144	8555-8905	Front cover
145	9421-0718	Control strip
146	9536-5613	Separator for well
147	9758-1286	Spring for well
148	9536-5155	Thermometer
149	9536-5605	Safety thermometer
150	9536-5604	Thermostat
151	8219-5508	Setting button with pins
152	8555-4910	Electrical circuit
153	8555-5500	Fasteners for control panel







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The manufacturer :



BP 30 - 57, rue de la Gare  
F - 67580 MERTZWILLER



+33/3 88 80 27 00 - Fax : +33/3 88 80 27 99

N<sup>i</sup> IRC : 347 555 559 RCS STRASBOURG  
[www.dedietrich.com](http://www.dedietrich.com)

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in North America :

**FLEXIBLE EUTECTIC SALES LTD.**

1090 Fountain St., Unit #10

CAMBRIDGE, ONTARIO

N3E 1A3

CANADA

Phone : (800) 943-6275 - Fax : (519) 650-1709

**[www.dedietrich-boilers.com](http://www.dedietrich-boilers.com)**

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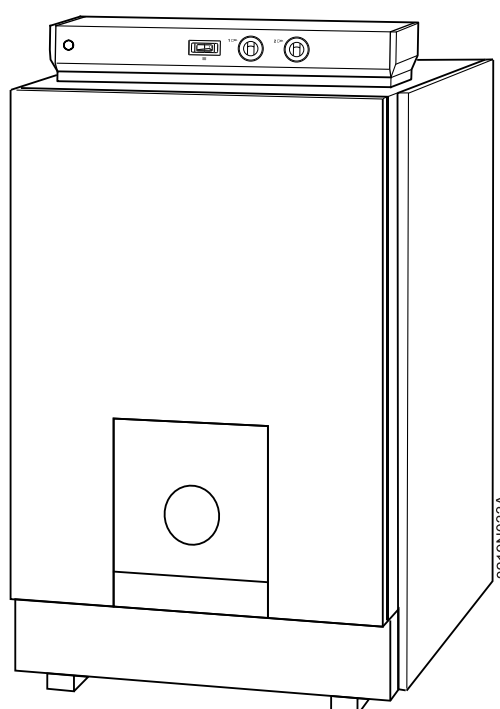
In the interest of customers, DE DIETRICH THERMIQUE are continuously endeavouring to make improvements in product quality.  
All the specifications stated in this document are therefore subject to change without notice.



# GT 300 A/II

Fuel oil/gas hot water boiler

English  
02/12/07



## Assembly

**instructions** - Please read these instructions & retain for future reference



**De Dietrich**



85534259

D

94863881

## Installation codes

The boiler shall be assembled and installed by a qualified professional only. Strict compliance with these installation and operating instructions is a precondition for the correct and guarantee of the boiler.

The installation must conform to the requirements of the authority having jurisdiction or, in the absence of such requirements, to the CAN/CGA B-149 fuel gas installation codes and CSA B-139 oil installation codes.

Where required by the authority having jurisdiction, the installation must conform to the standard for controls and safety devices for automatically fired boilers ANSI/ASME CSD-1.

The installation of the relief valve shall be consistent with ANSI/ASME boiler pressure vessel code, section 1V CSA B51.

The boiler must not be installed on carpeting.

If an external electrical source is utilized, the boiler when installed, must be electrically bonded to ground in accordance with the requirements of the authority having jurisdiction or, in the absence of such requirements, with the canadian electrical code part 1.CSA C22.1 electrical code.



**Label all wires prior to disconnection when servicing controls. Wiring can cause improper operation after servicings. Verify proper operation after service.**

## Packing

### For Canada:

#### BOILER PACKAGED CONTENTS INCLUDED:

- Installation and operating instructions
- Assembly instructions
- Tube(s) of silicone #9428-5095
- Can(s) of lubricant # 9430-5027
- Assembly tools # 8801-7000/7005

**Packing :** Before assembling the boiler, check with the chart below to make sure that you have all the component packages.

#### 1. Technical documents package

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
1 Package (United States)		FD 115	FD 116	FD 117	FD 118	FD 119	FD 120
1 Package (Canada)		FD 109	FD 110	FD 111	FD 112	FD 113	FD 114

#### 2. Boiler body + Accessories

##### - Boilers supplied with an assembled body (Begin at figure 15)

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
Assembled boiler body (contents depend upon model)		1	1	1	1	1	1
Accessories	Package	FD 133	FD 133	FD 134	FD 135	FD 135	FD 136

##### - Boilers supplied with an unassembled body

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
Front section	Package <b>8219-0031</b>	1	1	1	1	1	1
Intermediate section	Package <b>8219-0030</b>	2	3	4	5	6	7
Rear section	Package <b>8219-0032</b>	1	1	1	1	1	1
Assembly rod pack		1	1	1	1	1	1
Body accessories	1 Package	FD 127	FD 128	FD 129	FD 130	FD 131	FD 132
Base frame	1 Package	FD 30	FD 31	FD 32	FD 33	FD 34	FD 35

#### 3. Burner door

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
Burner door	1 Package	BP 114	BP 114	BP 114	BP 114	BP 114	BP 114

#### 4. Baffle plates

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
Baffle plates	1 Package	BP 16	BP 17	BP 17	BP 19	BP 20	BP 21

#### 5. Casing: The base frame insulation delivered in this package is not required (already fixed on).

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
United States	1 Package	FD 182	FD 183	FD 184	FD 185	FD 186	FD 187
Canada	1 Package	FD 1	FD 2	FD 3	FD 4	FD 5	FD 6

#### 6. Control panel

GT		304 A/II	305 A/II	306 A/II	307 A/II	308 A/II	309 A/II
Standard control panel	Package	FA 122	FA 122	FA 122	FA 122	FA 122	FA 122





For the optional equipment you may use with this boiler, see the current price list.

### Tools required




- Tube of silicon caulk
- Side cutter (for cutting thermocord)
- Wire brush (for cleaning section openings): use of a \*1" fitting brush attached to cordless saves time.
- Sand cloth (for cleaning nipples): Using a power brush saves time.
- Solvent
- Wooden or rubber mallet
- Tightness sealant: See step 28

THESE TOOLS ARE IN ADDITION TO YOUR NORMAL TOOL REQUIREMENTS.

 some spare screws are provided.

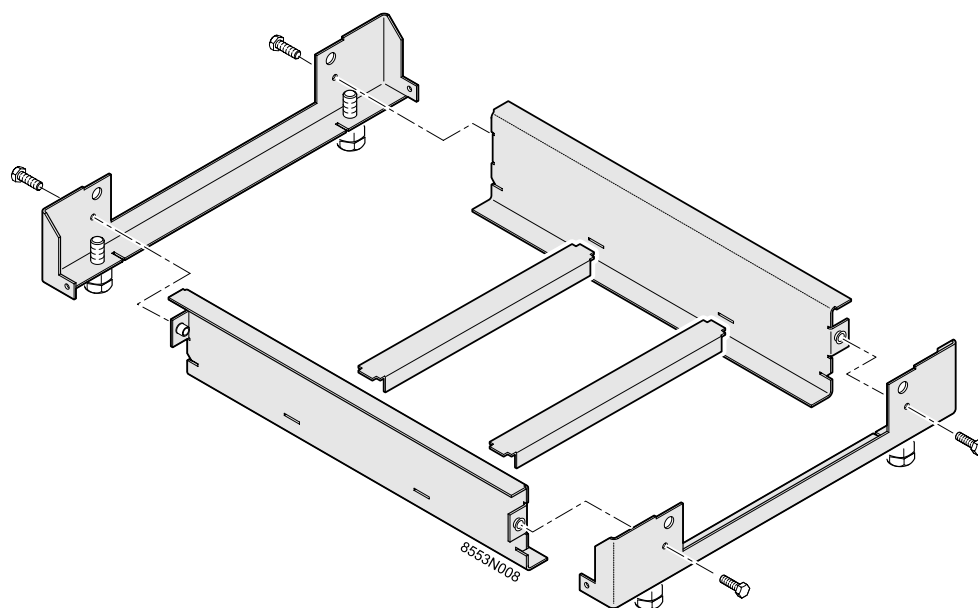
 **Warning : the order of assembly is given by the numbers of the various figures.**

### Symbols used

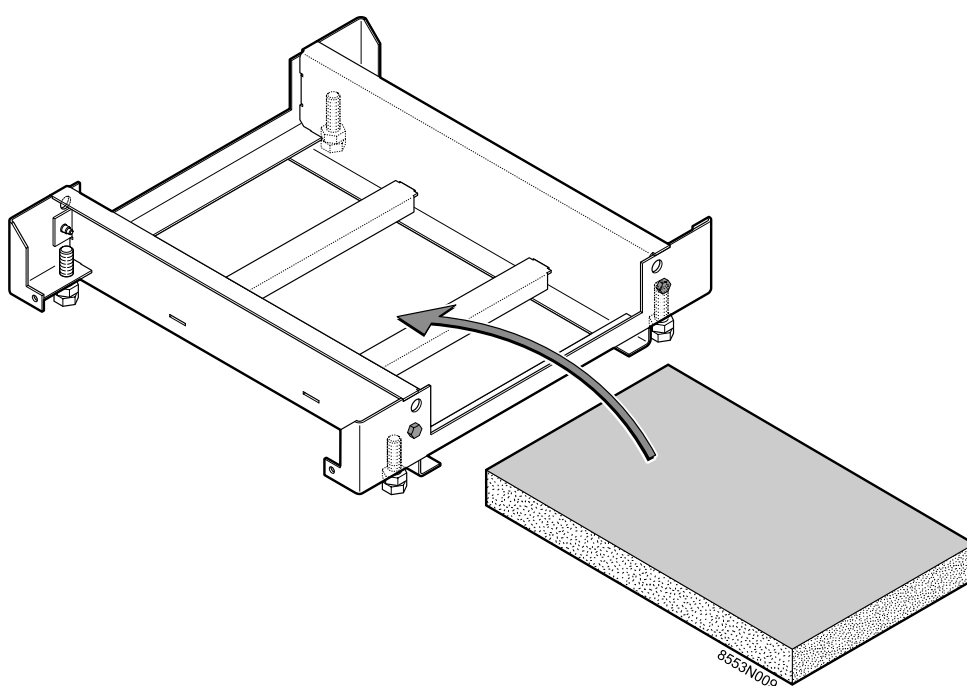
	Caution danger	Risk of injury and damage to equipment. Attention must be paid to the warnings on safety of persons and equipment
	Specific information	Information must be kept in mind to maintain comfort
	Reference	Refer to another manual or other pages in this instruction manual

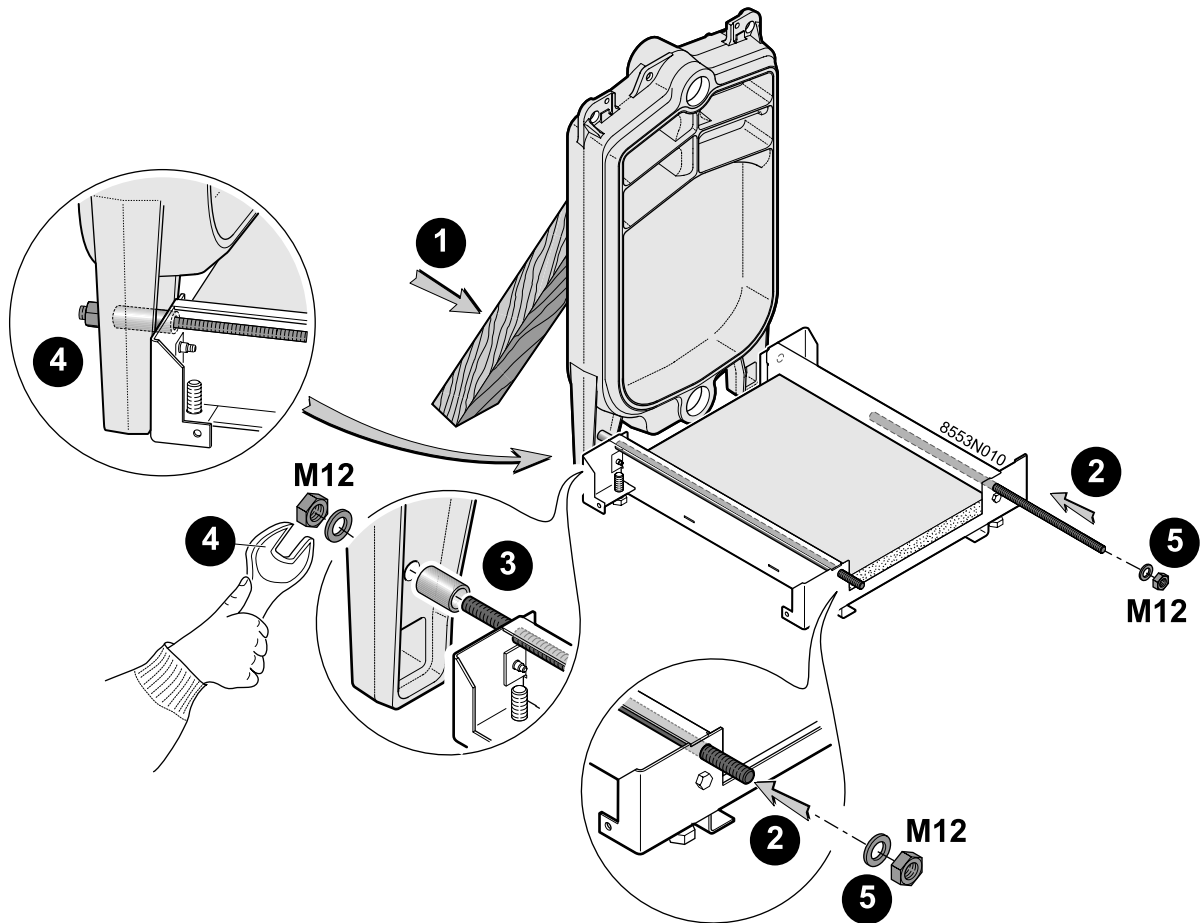
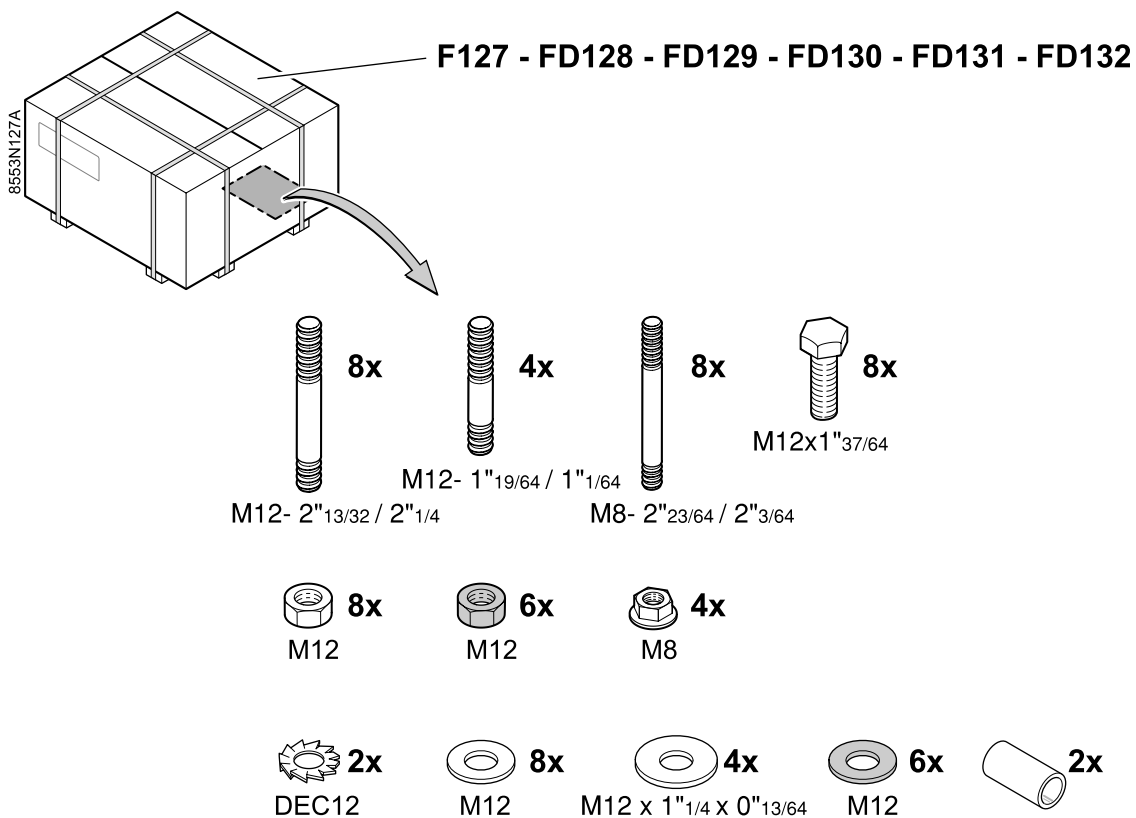
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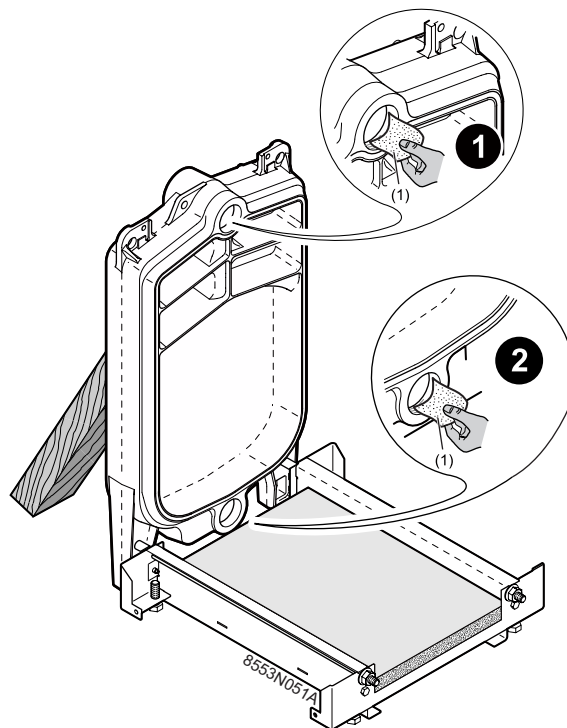
FD30 - FD31 - FD32 - FD33 - FD34 - FD35



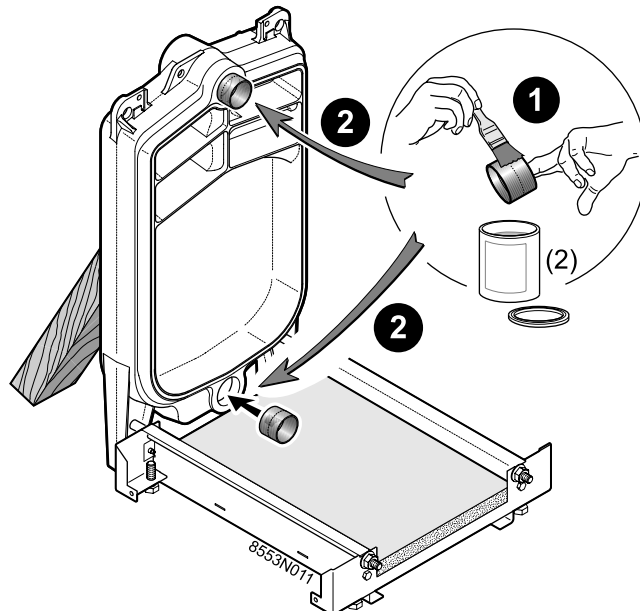
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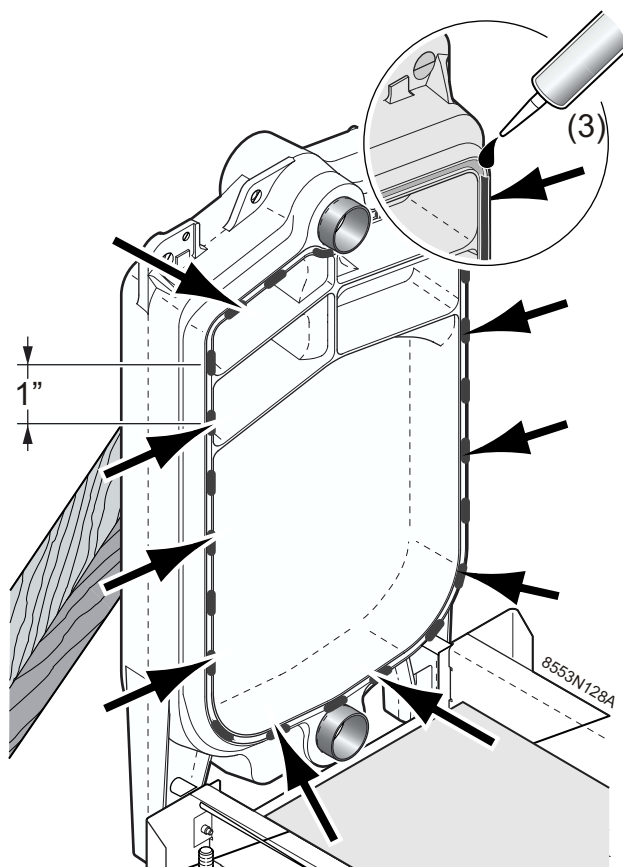
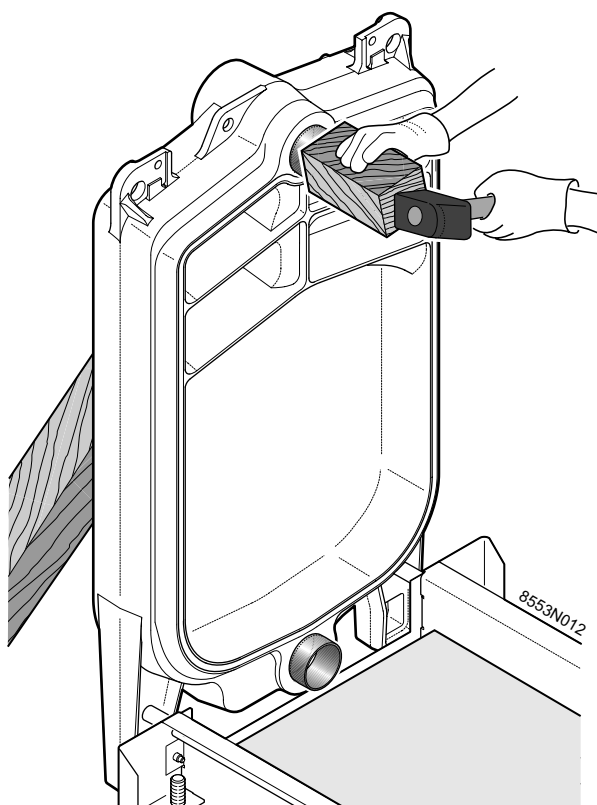




(1) Glasspaper

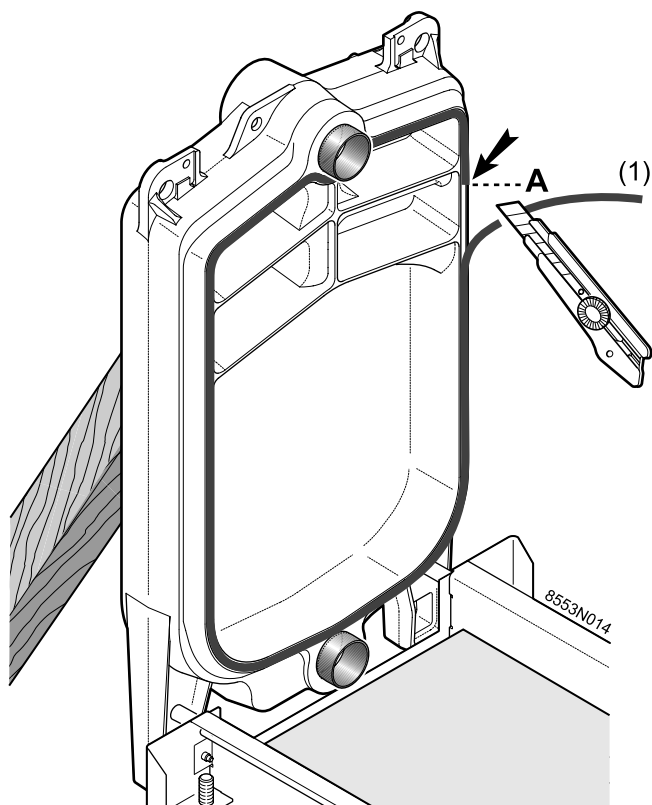


(2) Lubricant (supplied)

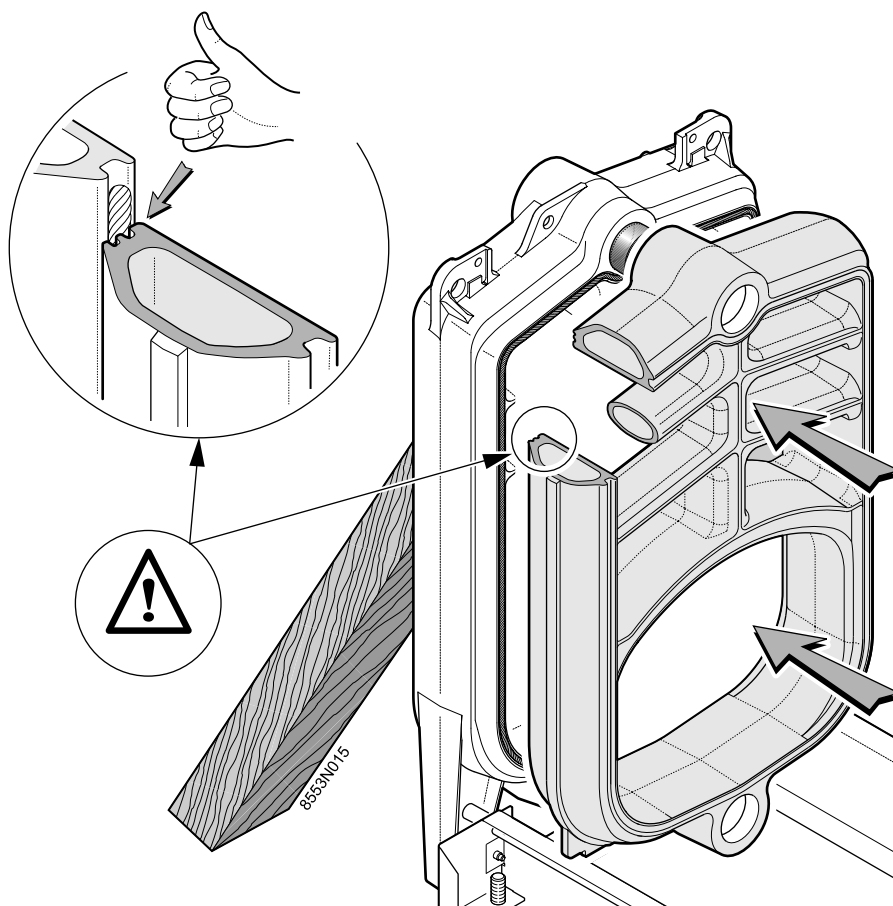


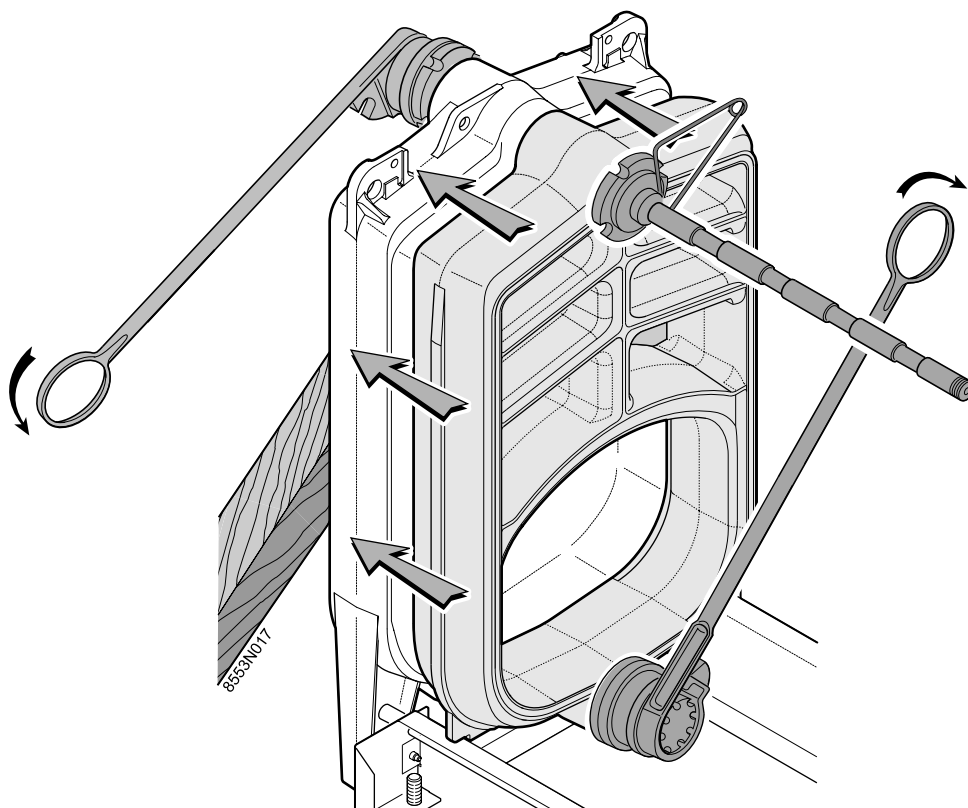
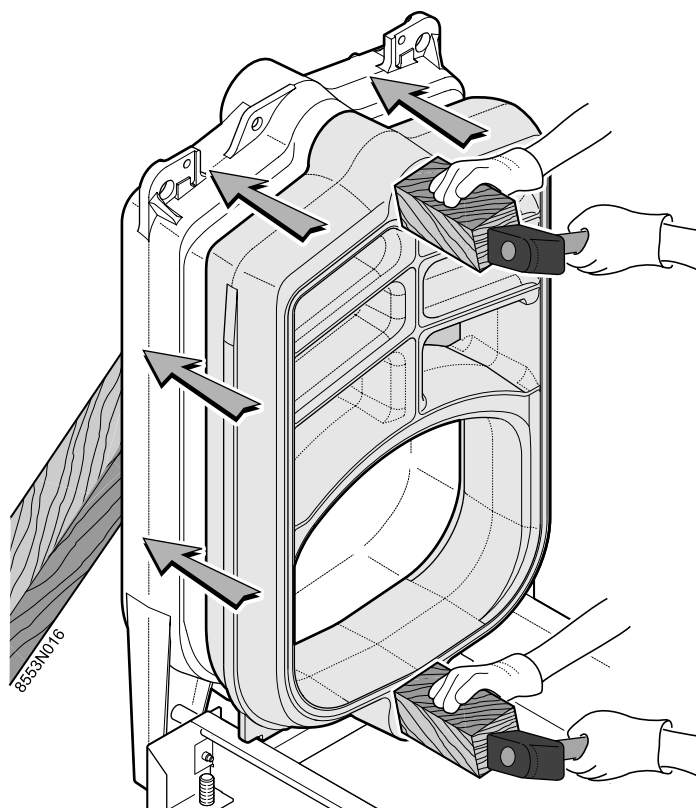
(3) Tube of silicon caulk (provided)

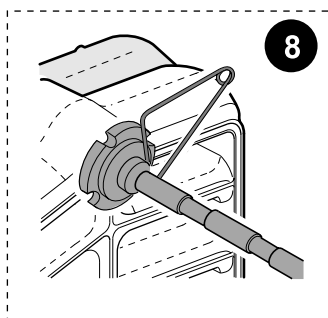
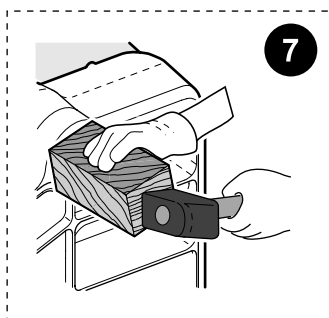
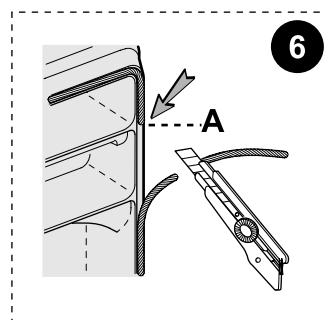
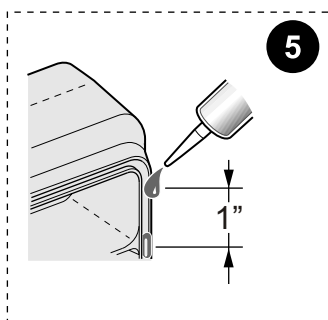
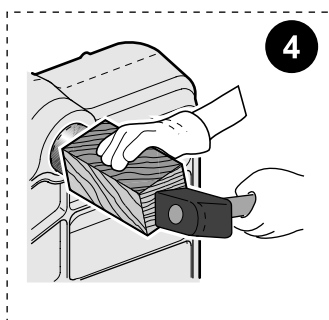
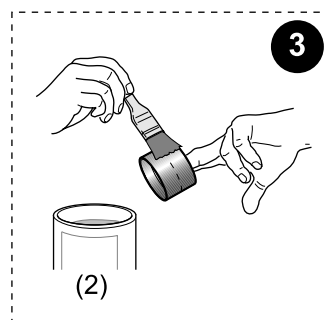
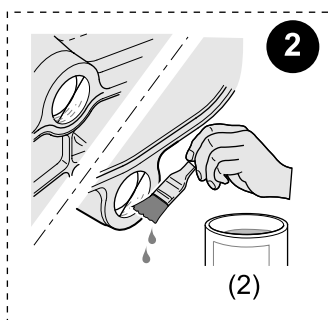
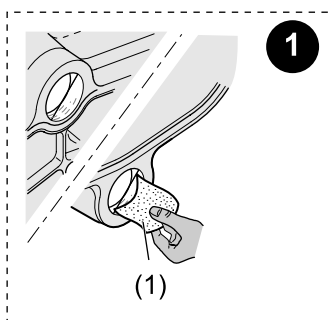
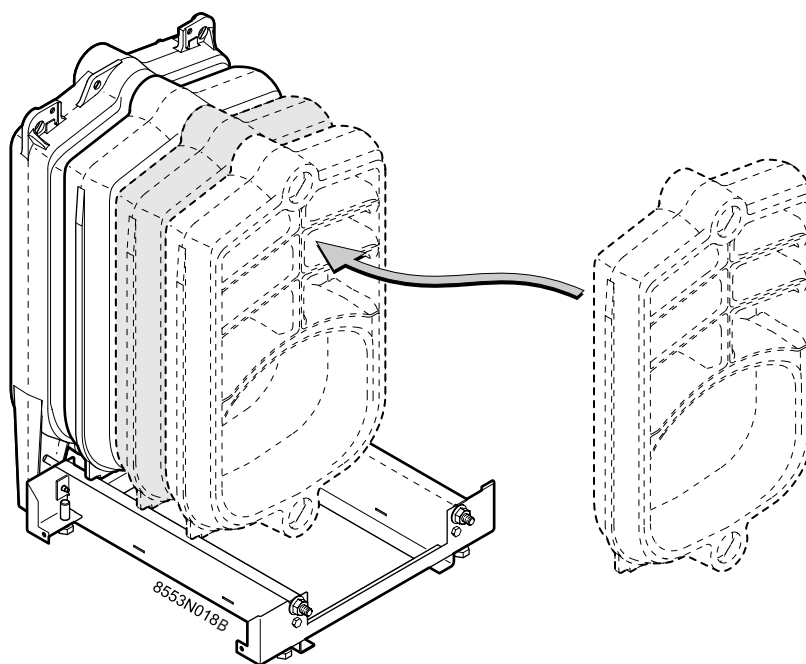




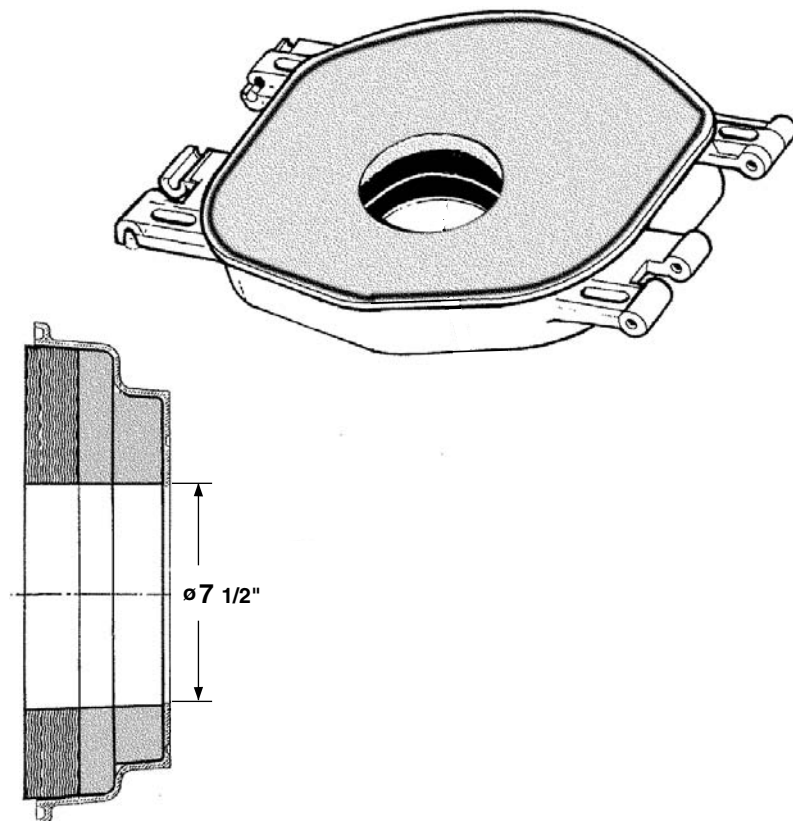
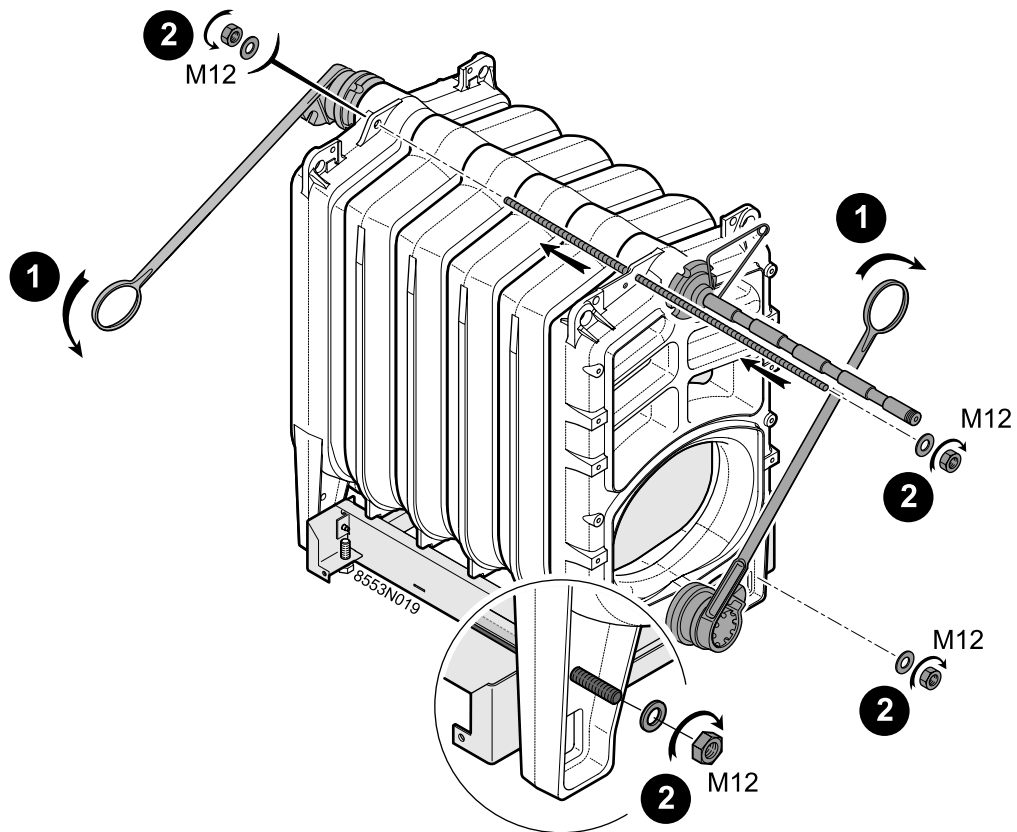
(1) Thermocord



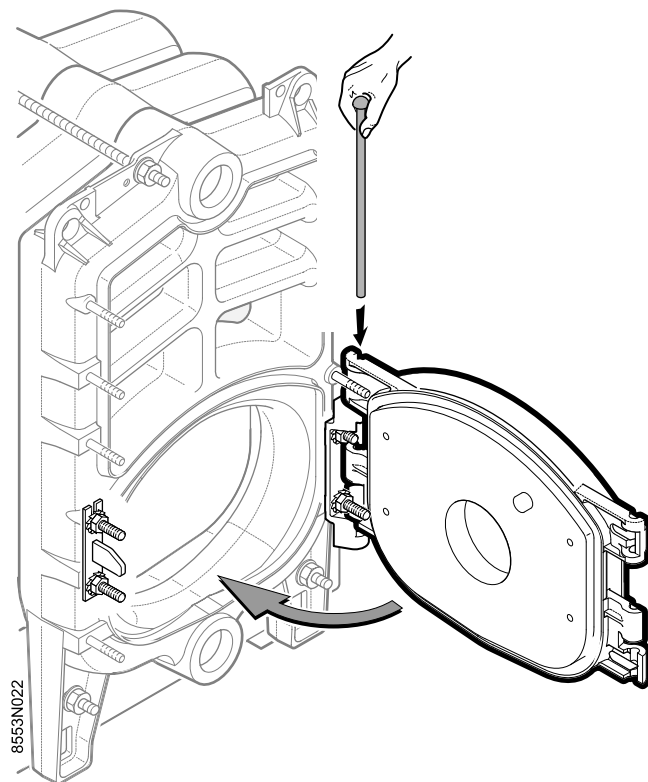
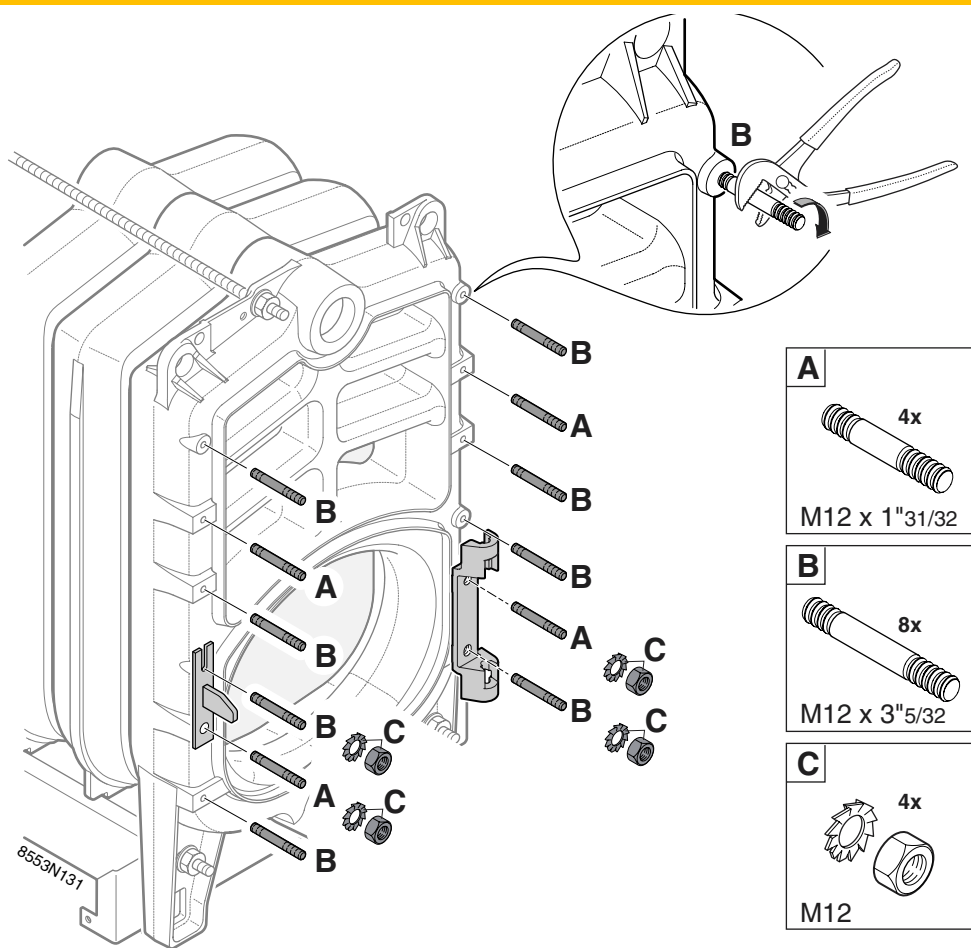


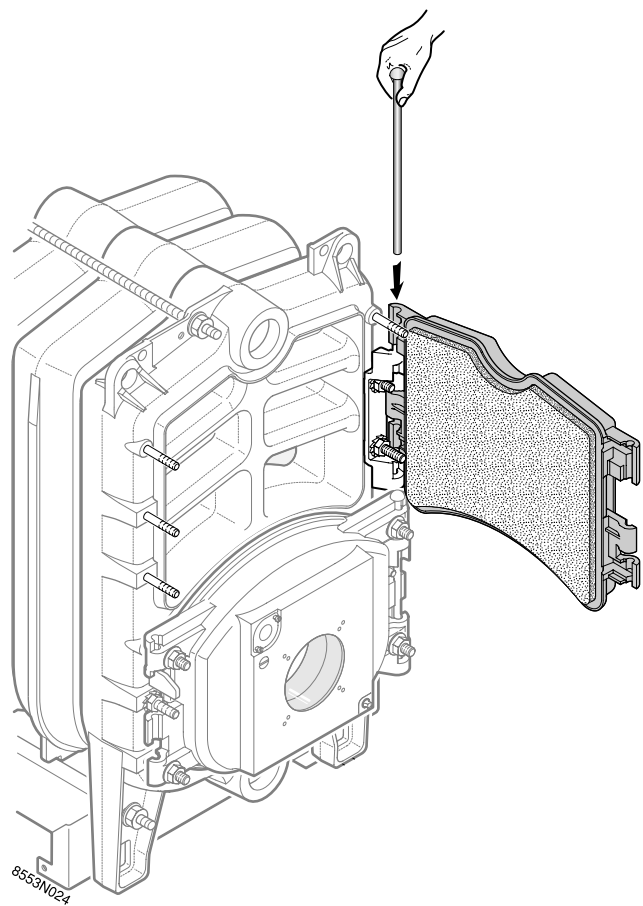
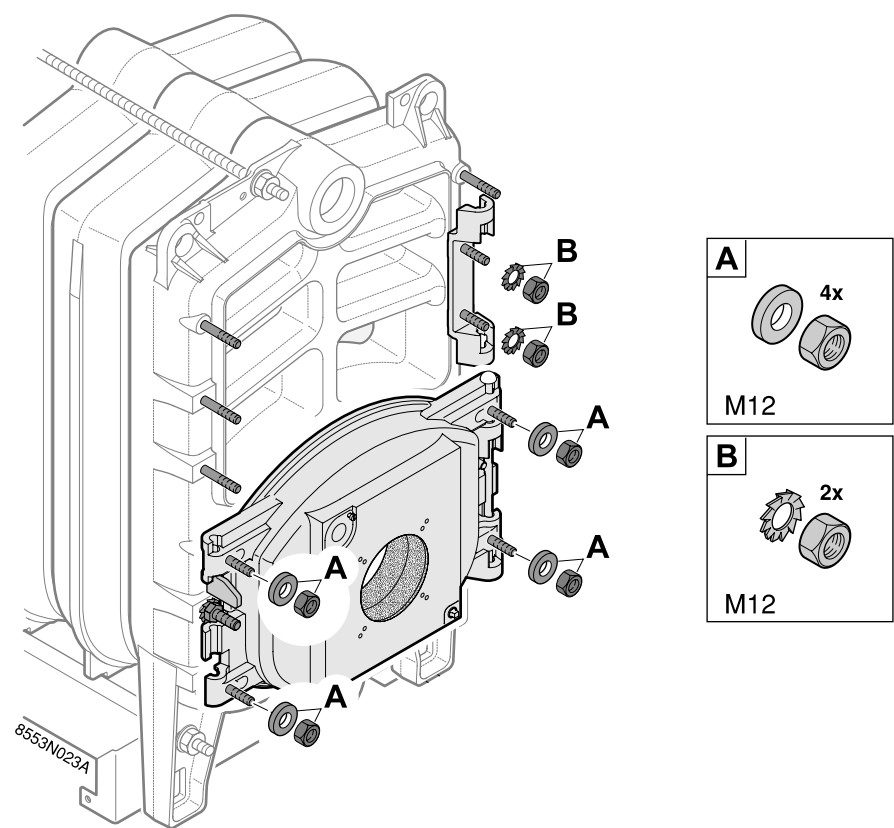


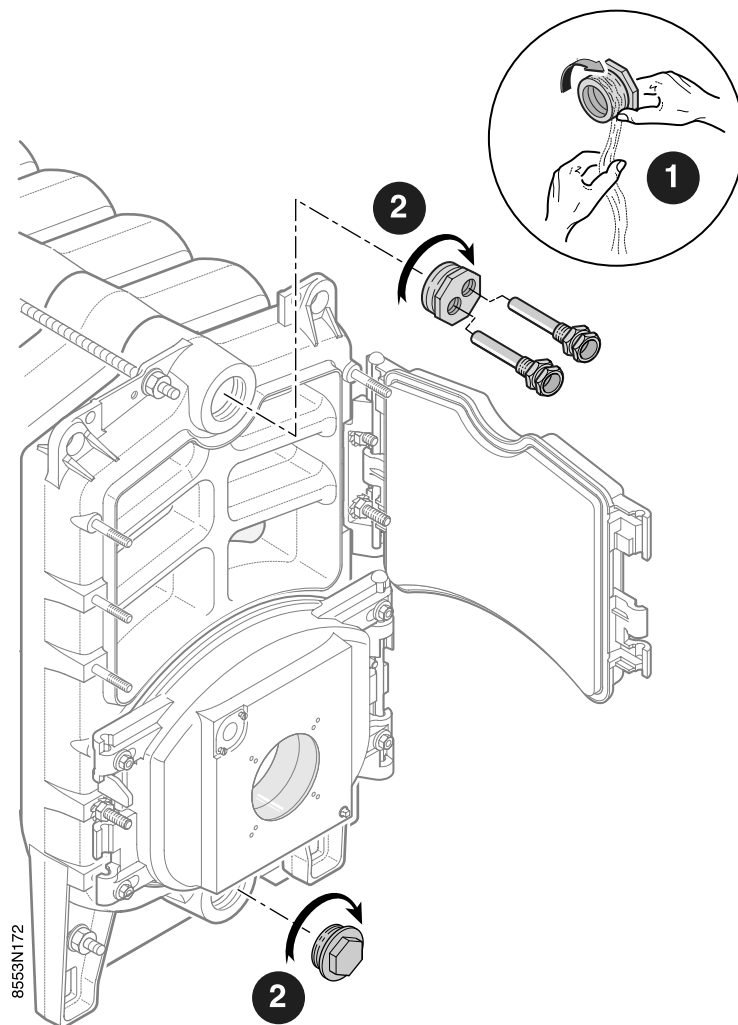
- (1) Glasspaper  
(2) Lubricant (supplied)



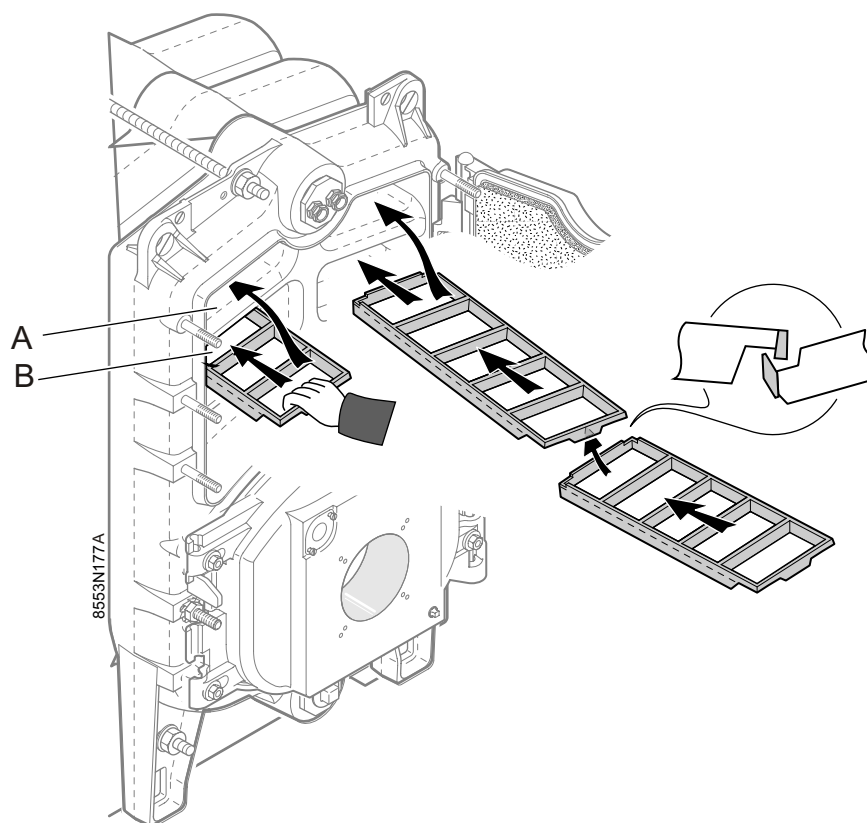
Adjust the thermal insulation to match the burner.





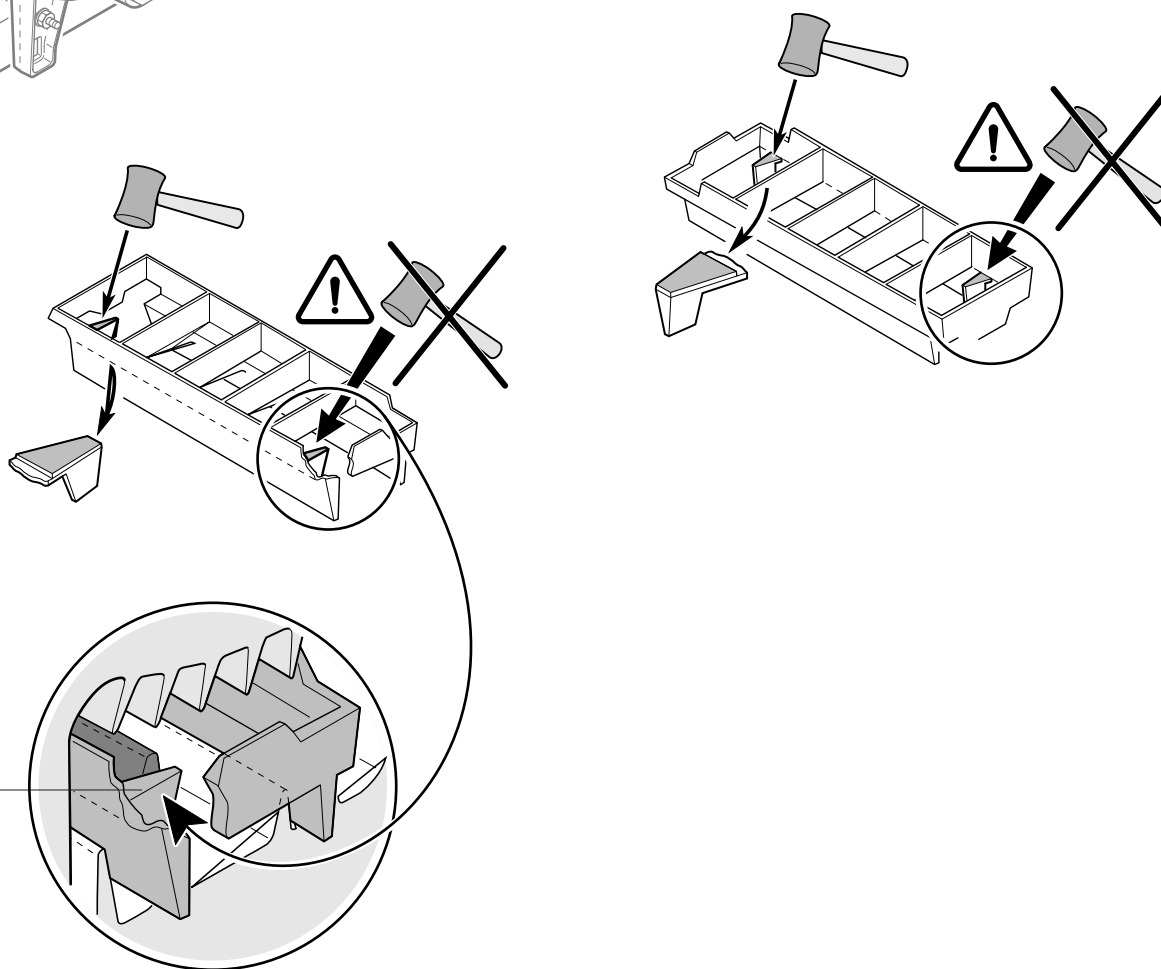
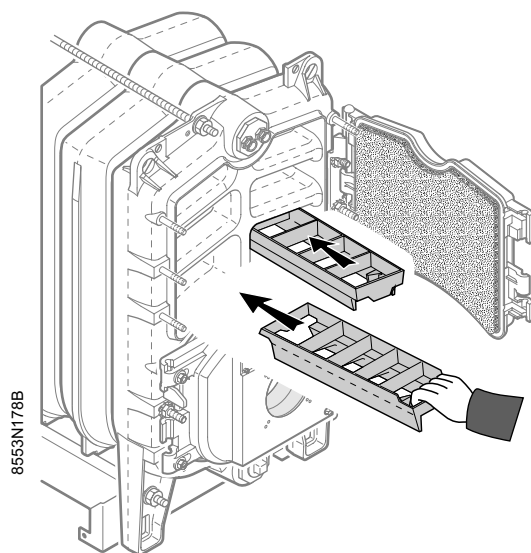


Desludging unit connection



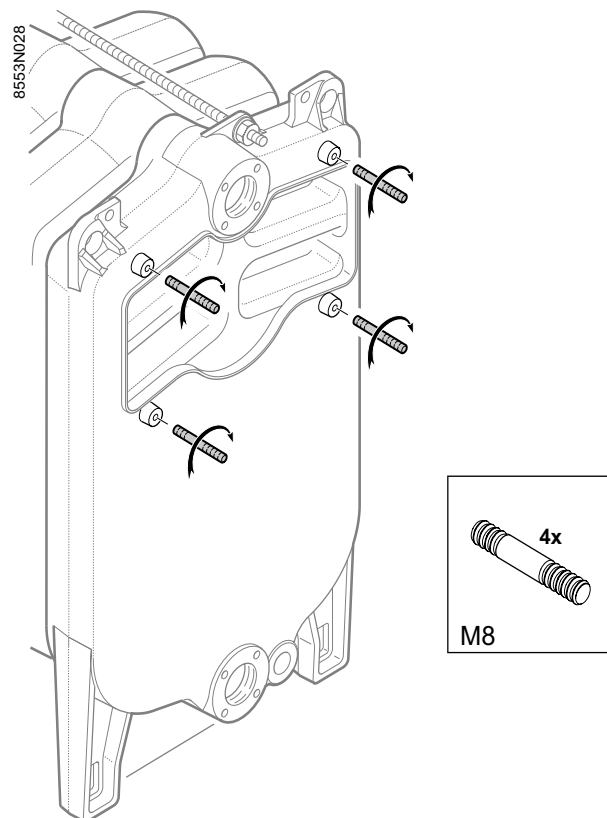
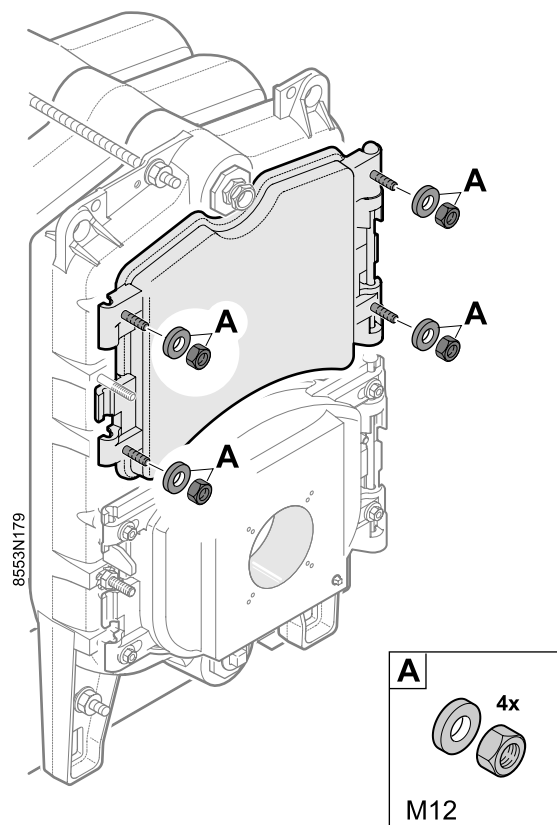
Baffle Position	Baffle	Fraction	mm	GT 304 A/II	GT 305 A/II	GT 306 A/II	GT 307 A/II	GT 308 A/II	GT 309 A/II
Upper [3rd Pass]	8219-0017	16 1/4	410	0	8	8	4	0	0
Middle [2nd Pass]	8219-0018	22 7/16	570	4	0	0	4	8	8
Lower [1st Pass]	8219-0019	16 1/4	412	2	2	2	2	4	2
	8219-0020	22 1/2	572	0	0	0	0	0	2

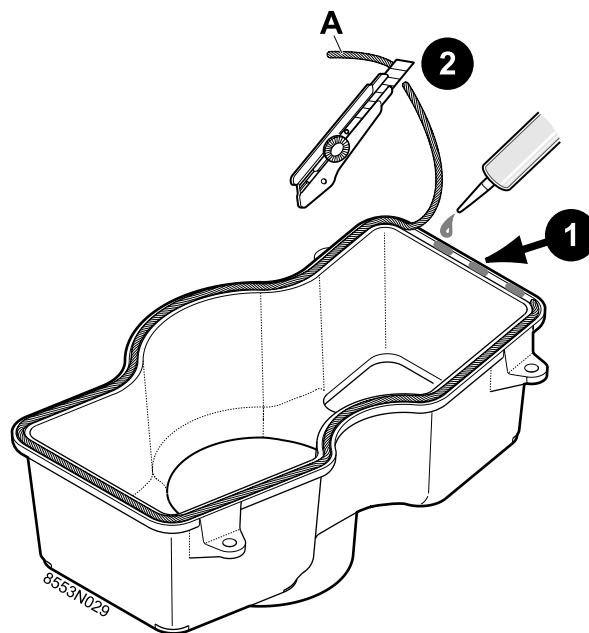




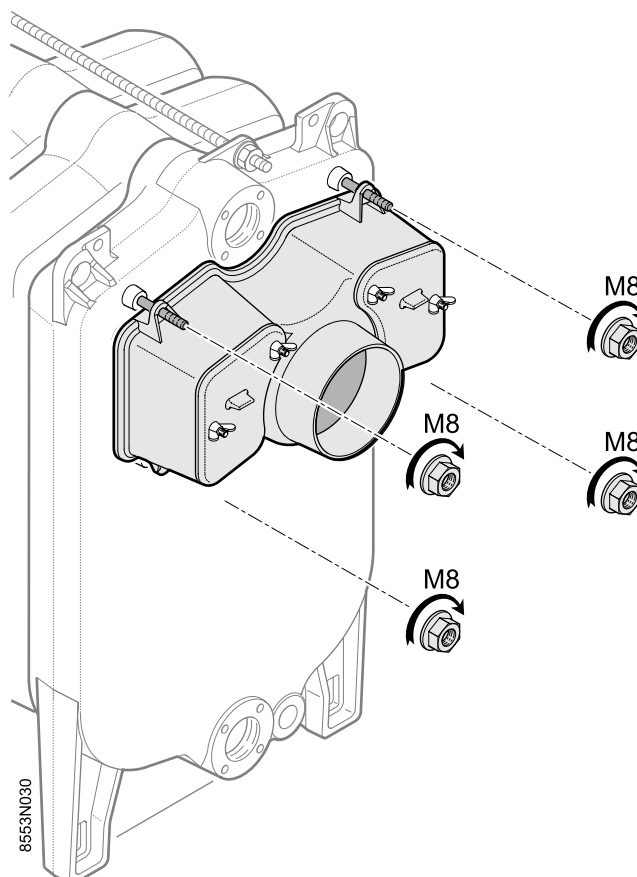
### 1: Stop pin

Baffle Position	Baffle	Fraction	mm	GT 304 A/II	GT 305 A/II	GT 306 A/II	GT 307 A/II	GT 308 A/II	GT 309 A/II
Upper [3rd Pass]	8219-0017	16 1/4	410	0	8	8	4	0	0
Middle [2nd Pass]	8219-0018	22 7/16	570	4	0	0	4	8	8
Lower [1st Pass]	8219-0019	16 1/4	412	2	2	2	2	4	2
	8219-0020	22 1/2	572	0	0	0	0	0	2





(A) Thermocord

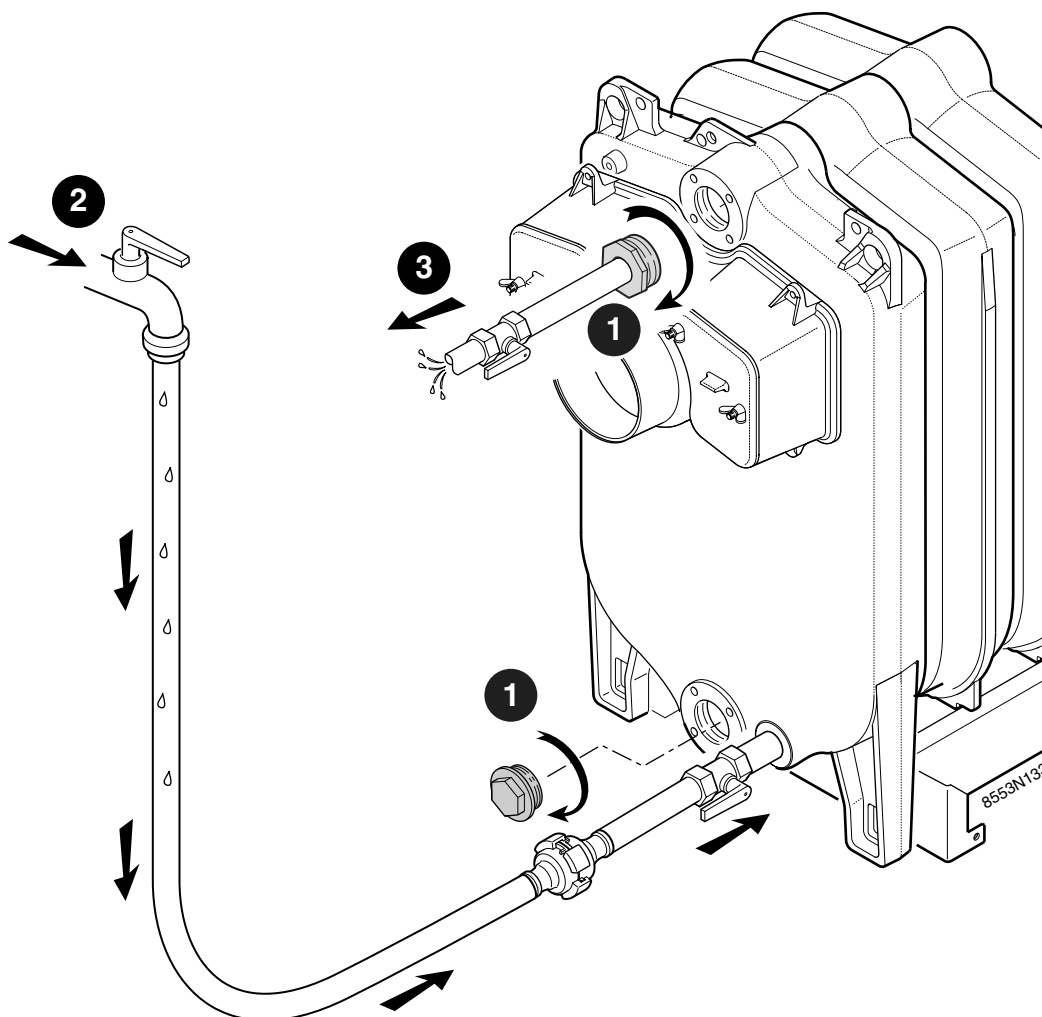


## 27 Hydraulic test

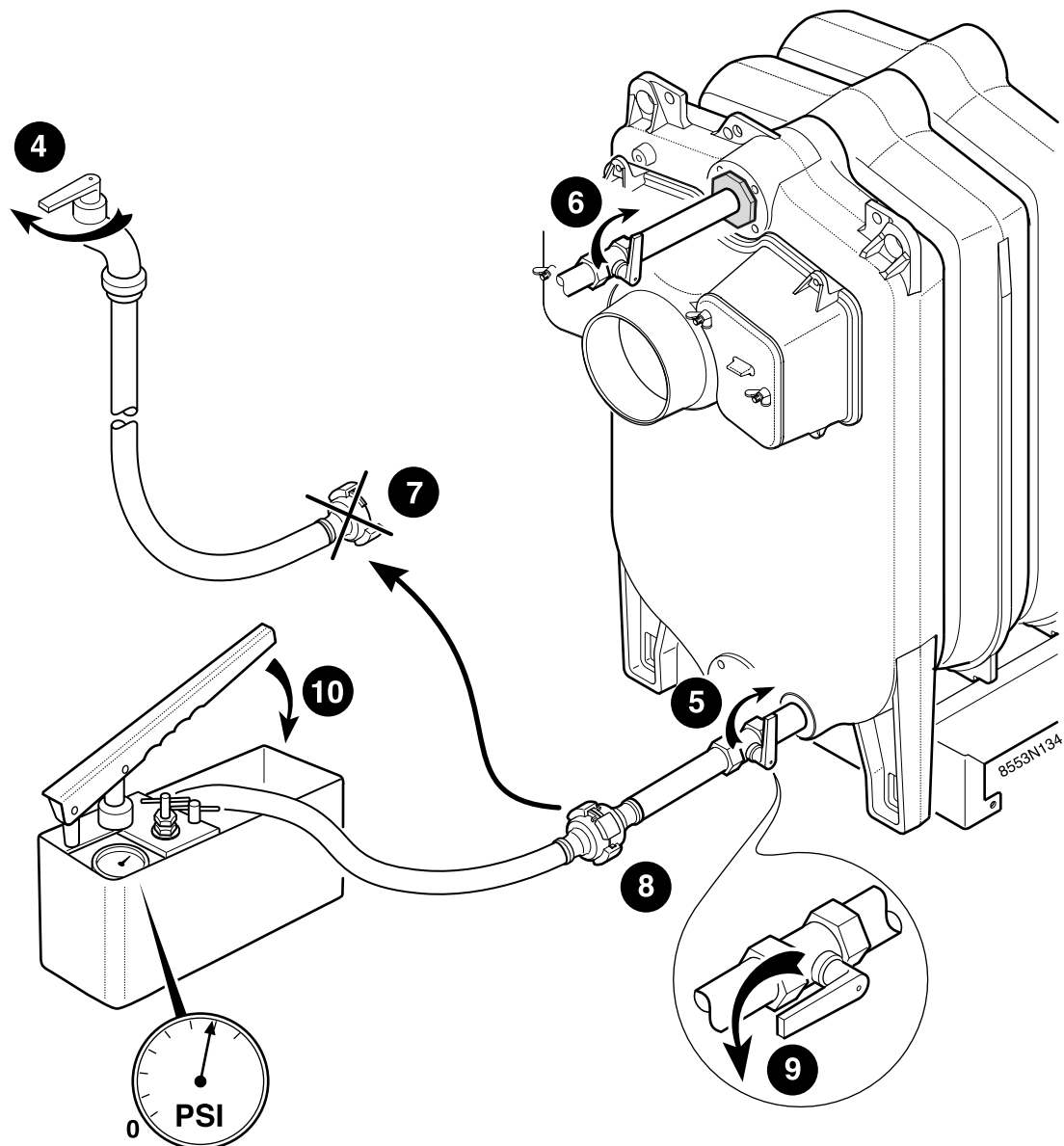
For USA: After assembling the boiler body, the installer must carry out a water tightness test at a pressure equal to 1.5 times the operating pressure (that is 108 PSI minimum) for 10 minutes at least.  
The test must be done at room temperature.

For Canada: After assembling the boiler body, the installer must carry out a water tightness test at a pressure equal to 1.5 times the operating pressure (that is 81\* PSI minimum) for 30 minutes at least.  
The test must be done at room temperature.

\*: 59 PSI minimum in Alberta.



Ensure that all the air in the boiler is vented to avoid any bursting of the body.

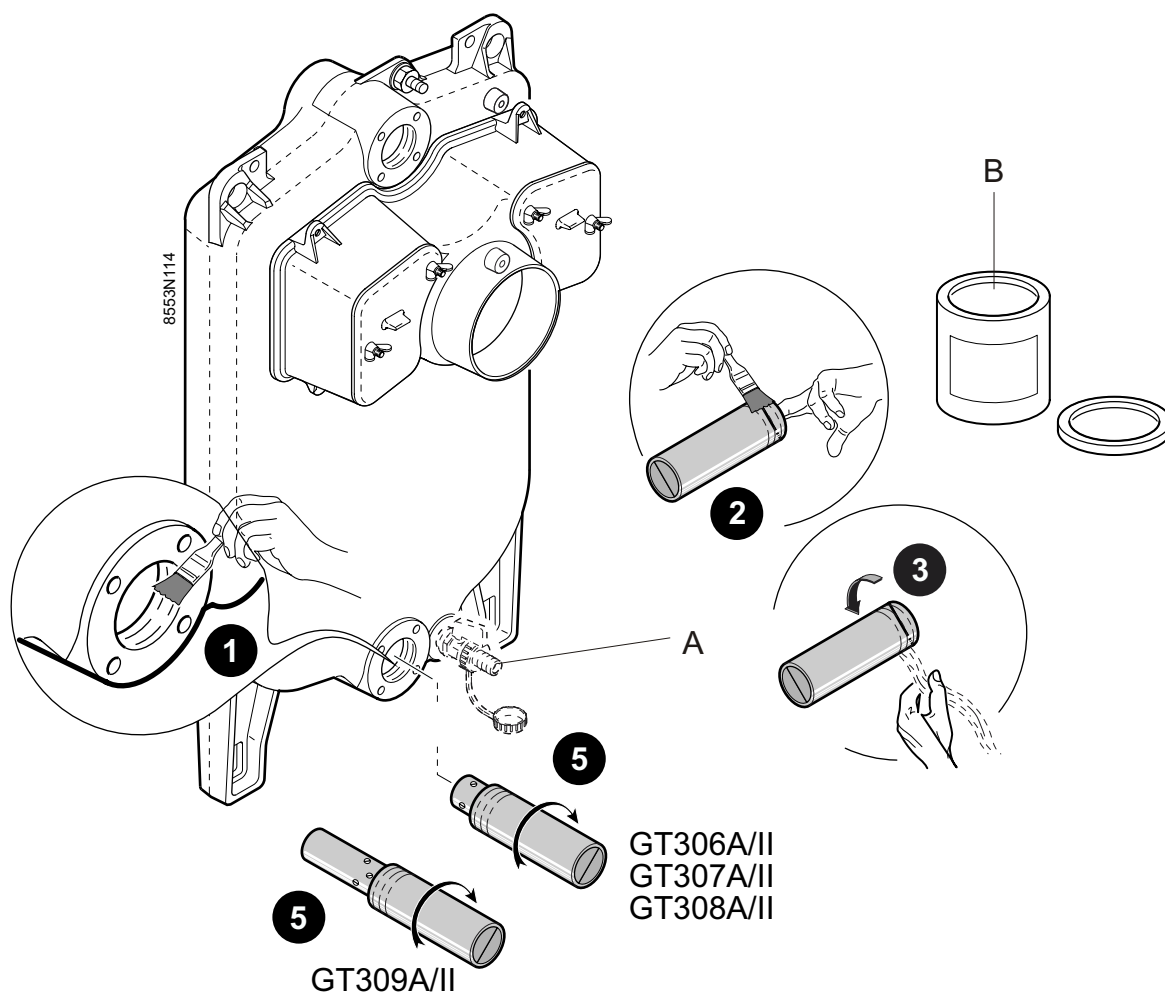


USA: 108 PSI: Maintain pressure for at least 10 minutes.

Canada: 81\* PSI: Maintain pressure for at least 30 minutes.

\*: 59 PSI minimum in Alberta.

**i** Any drop in pressure indicates a leakage in the boiler body.

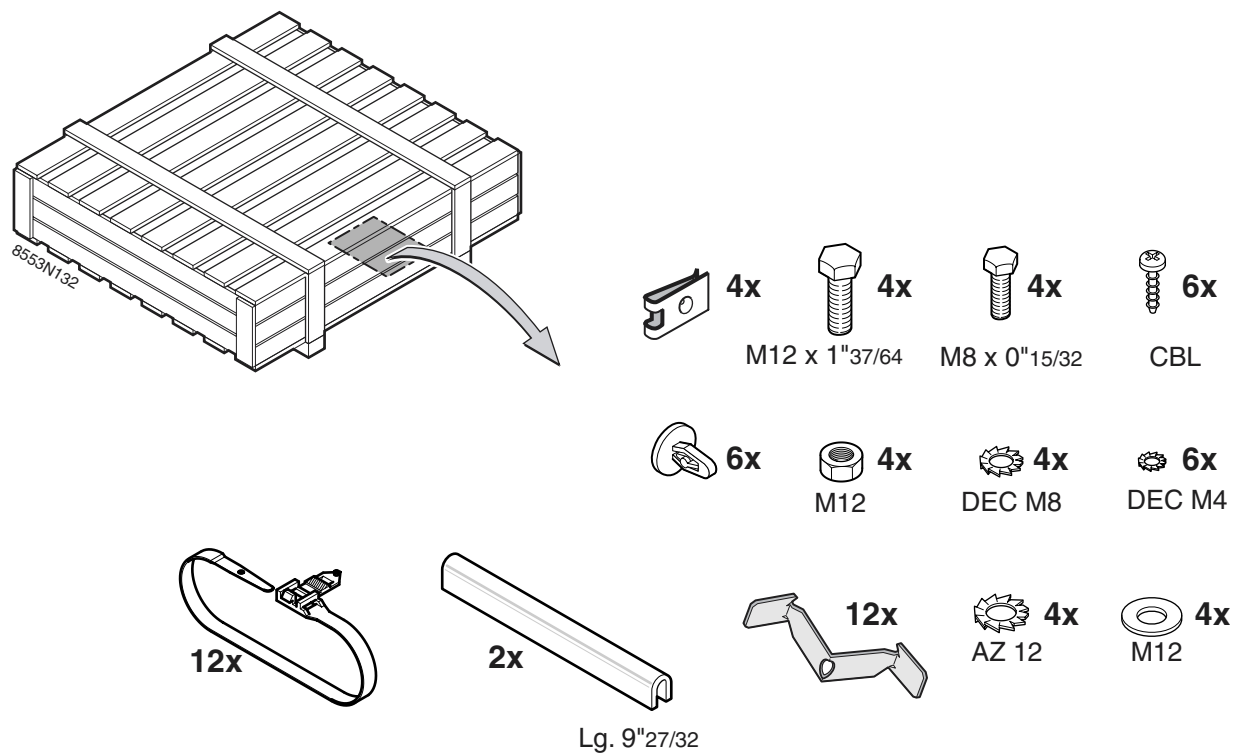


A. Drain tap (not supplied)

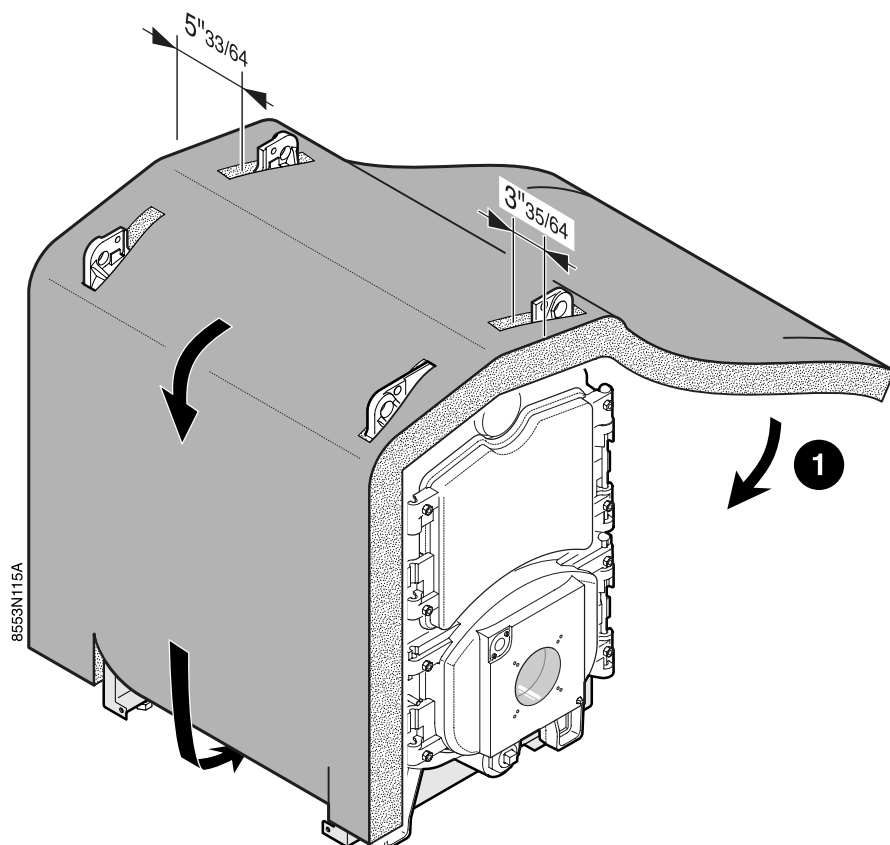
B. Tightness sealant (not supplied)

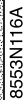
USA: FD182 - FD183 - FD184 - FD185 - FD186 - FD 187

Canada: FD1 - FD2 - FD3 - FD4 - FD5 - FD6

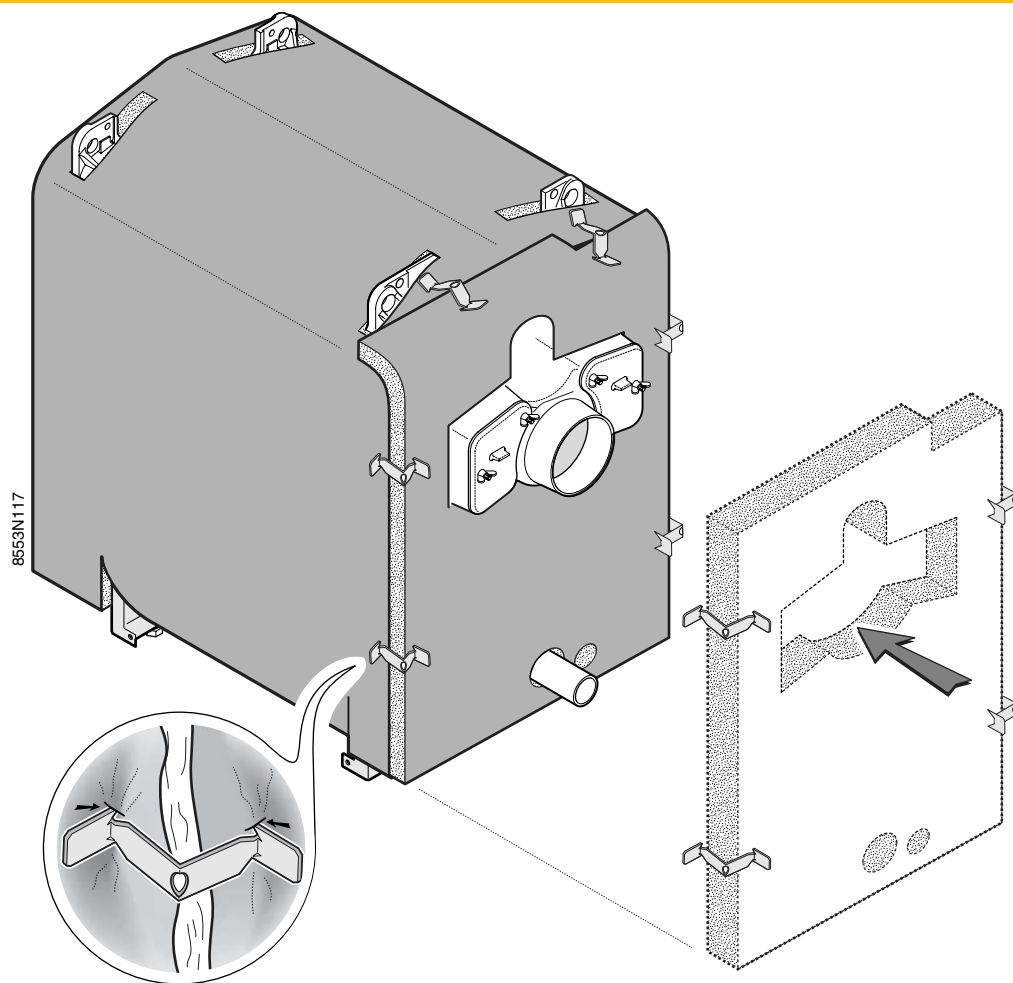


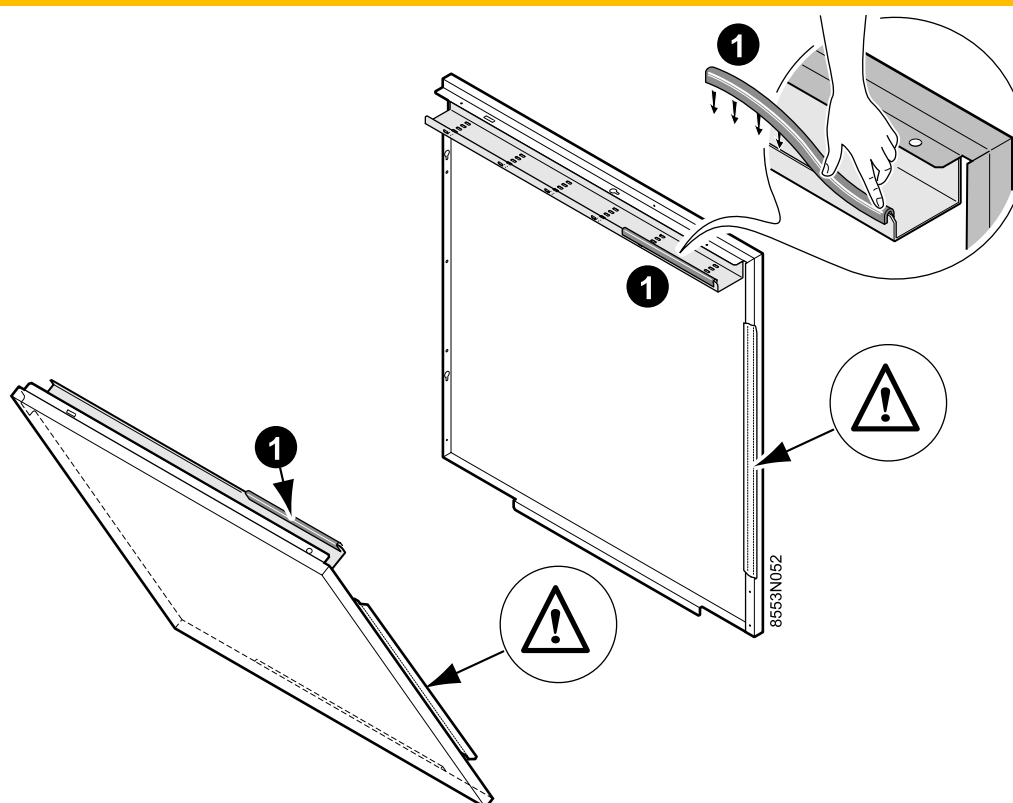
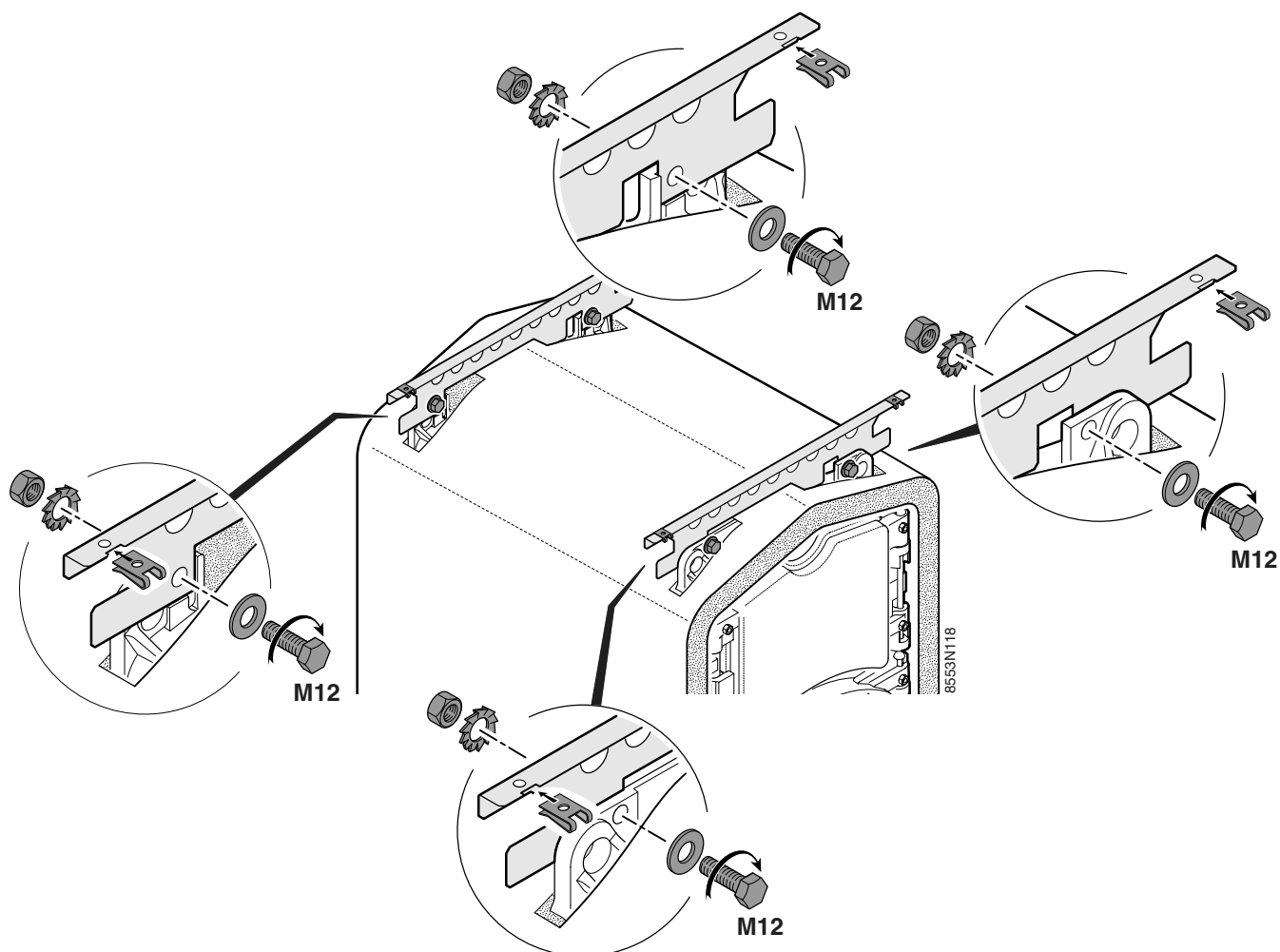
### 30 4-5-6-7 section boilers

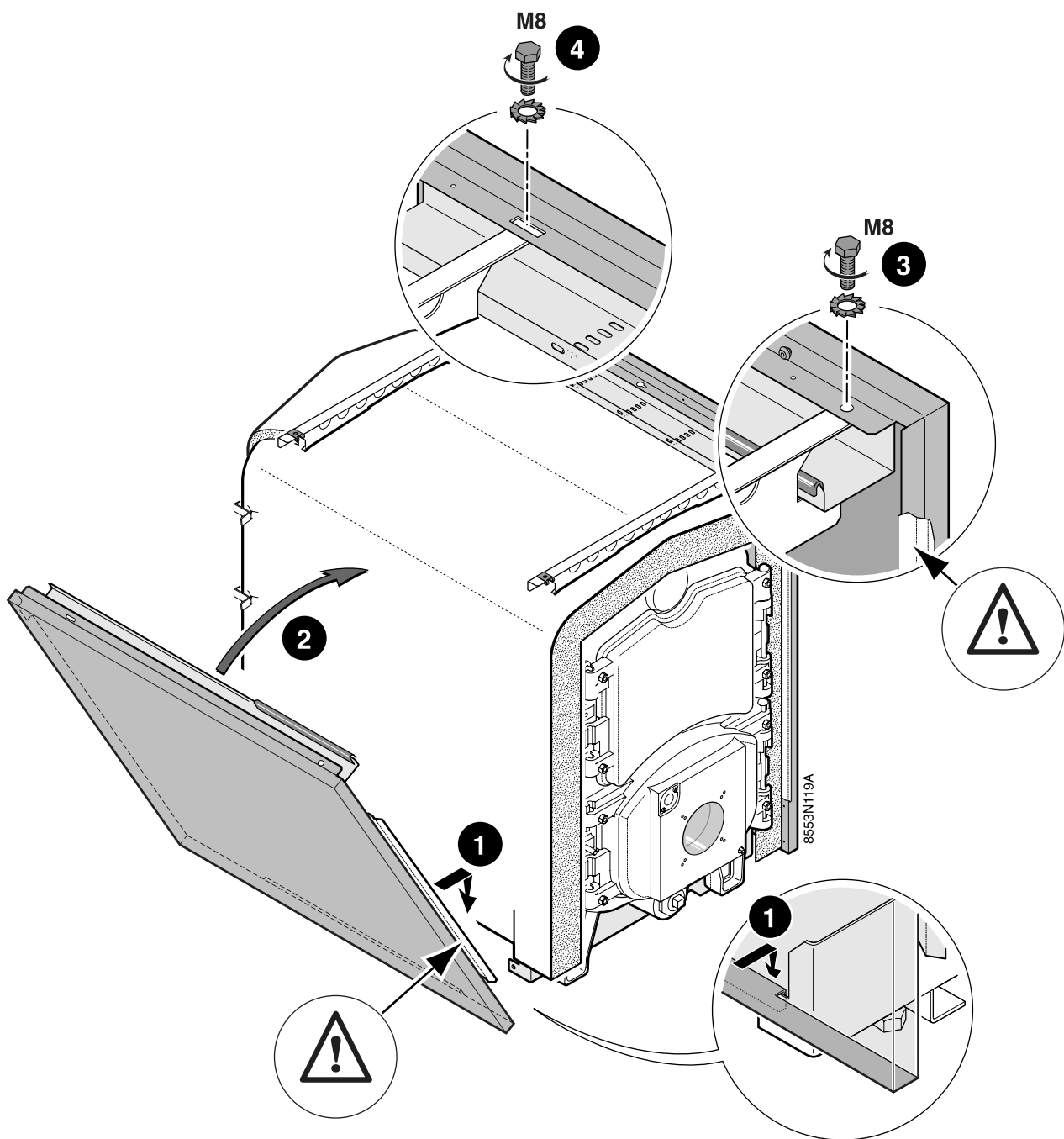


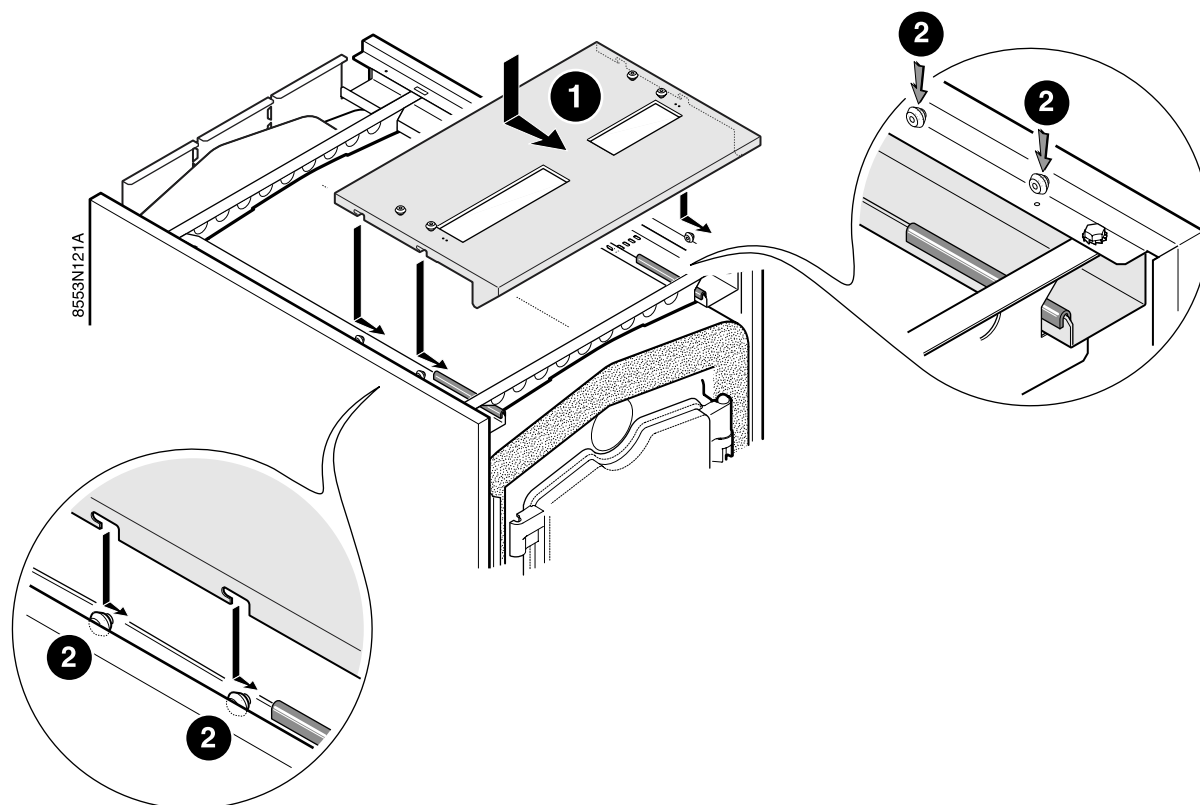
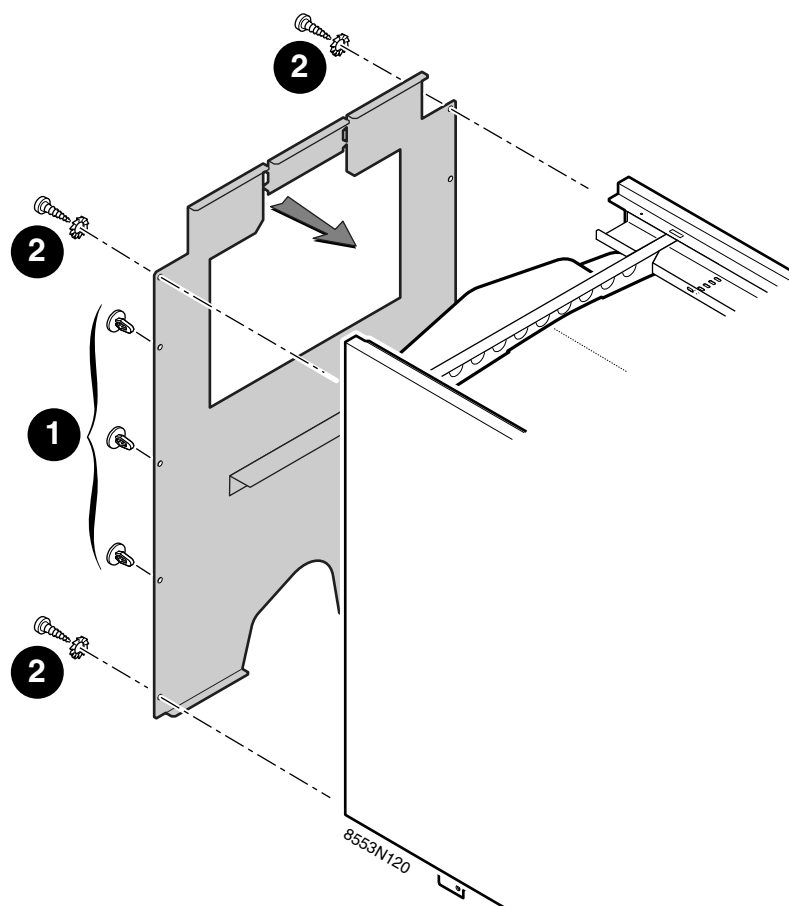


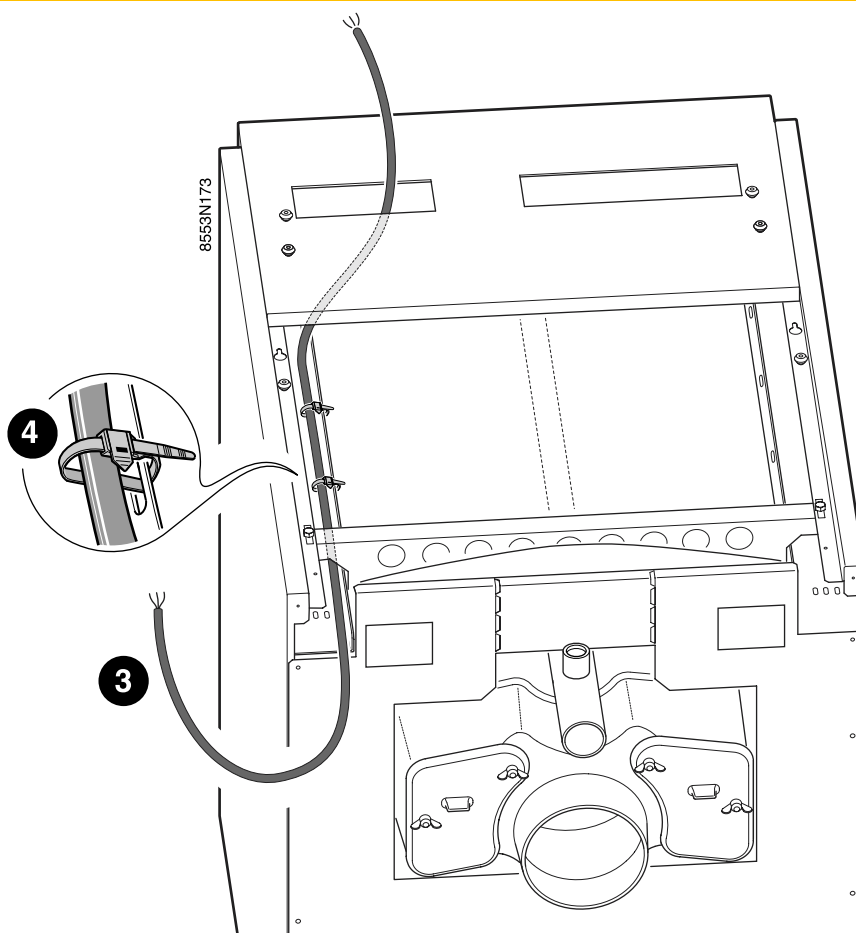






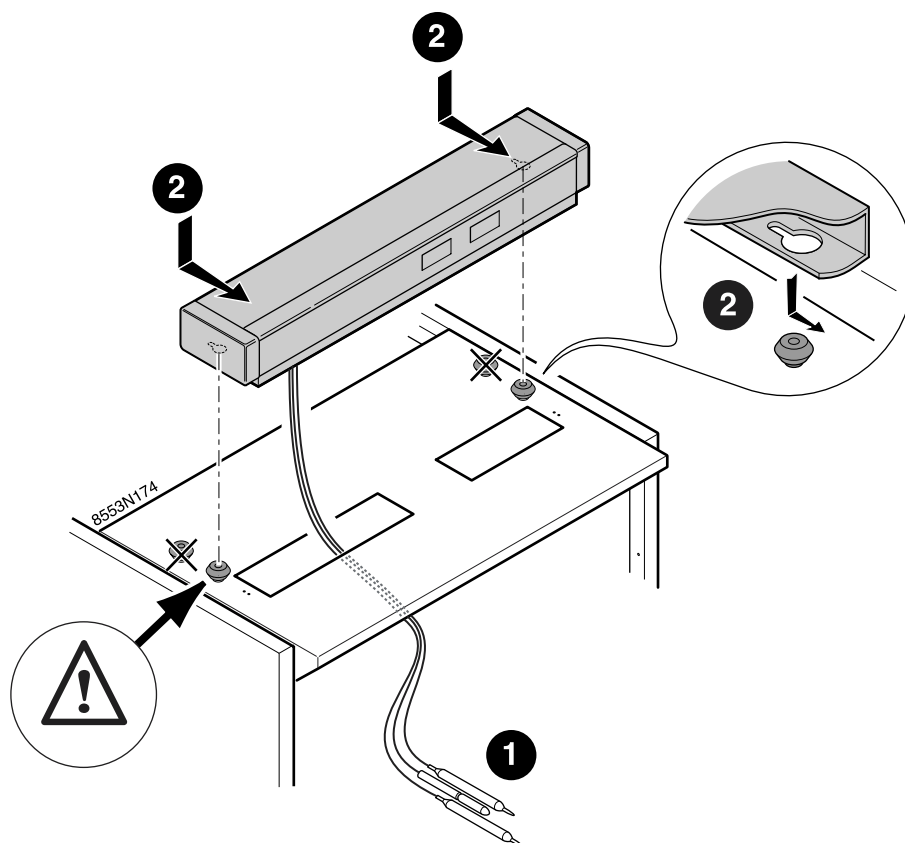




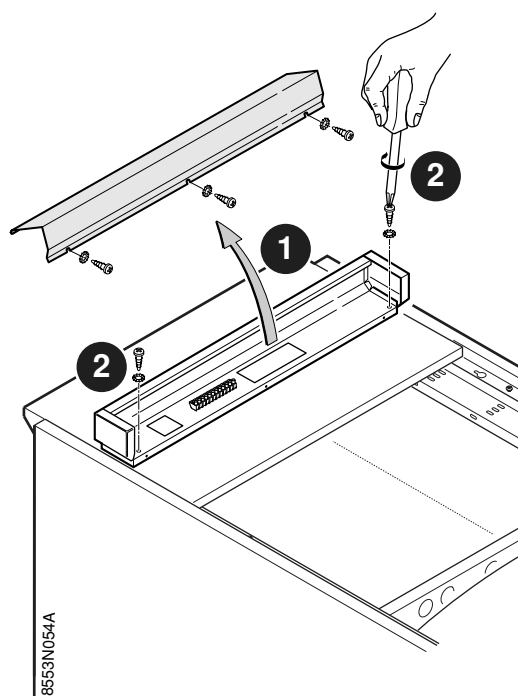


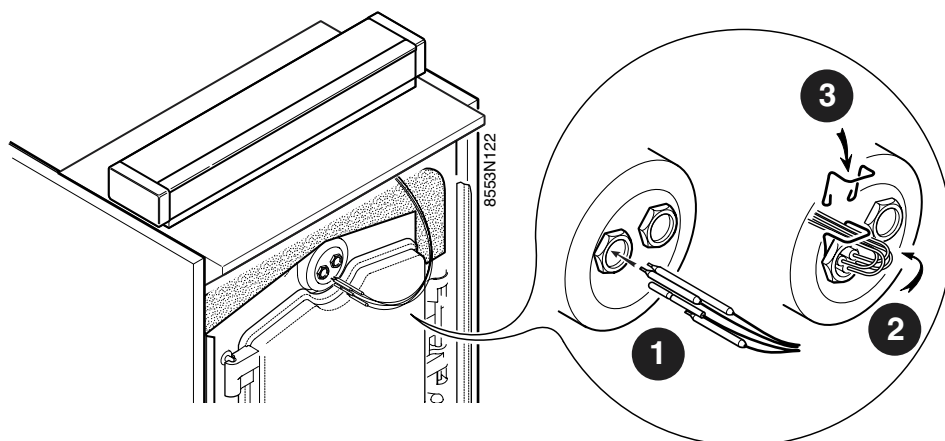
③ 120 V - 60 Hz

## 39 Control panel assembly



40



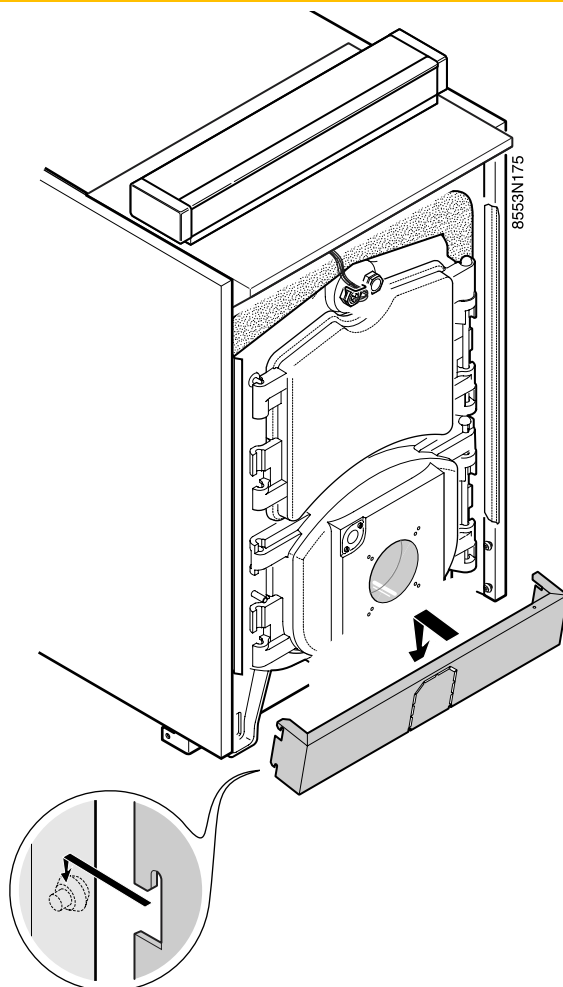


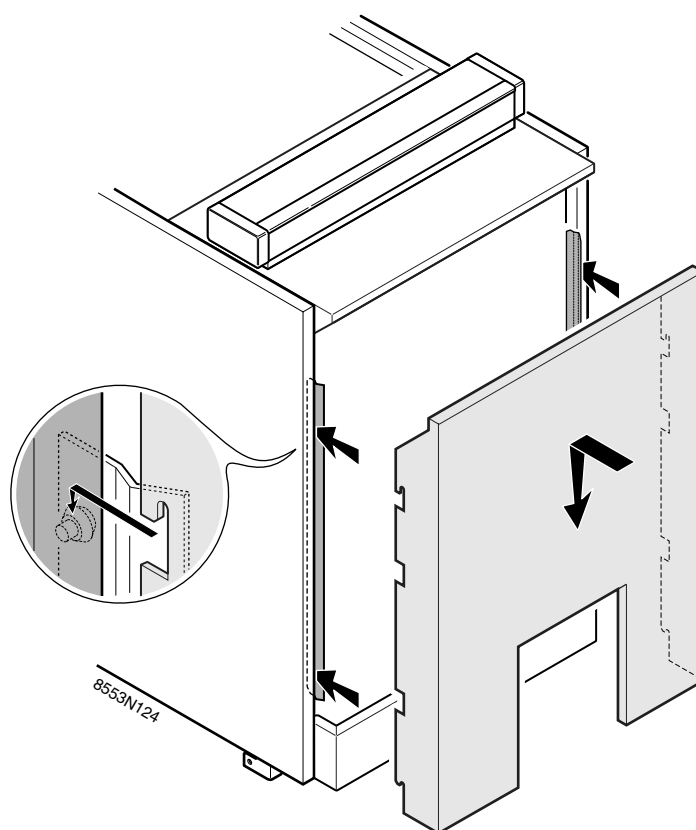
Carefully unwind the sensor bulbs and pass them through the opening in the front top cover. Insert them into the one well and secure them with the spring. The extra well is for auxiliary high temperature limit with manual reset.

## 42

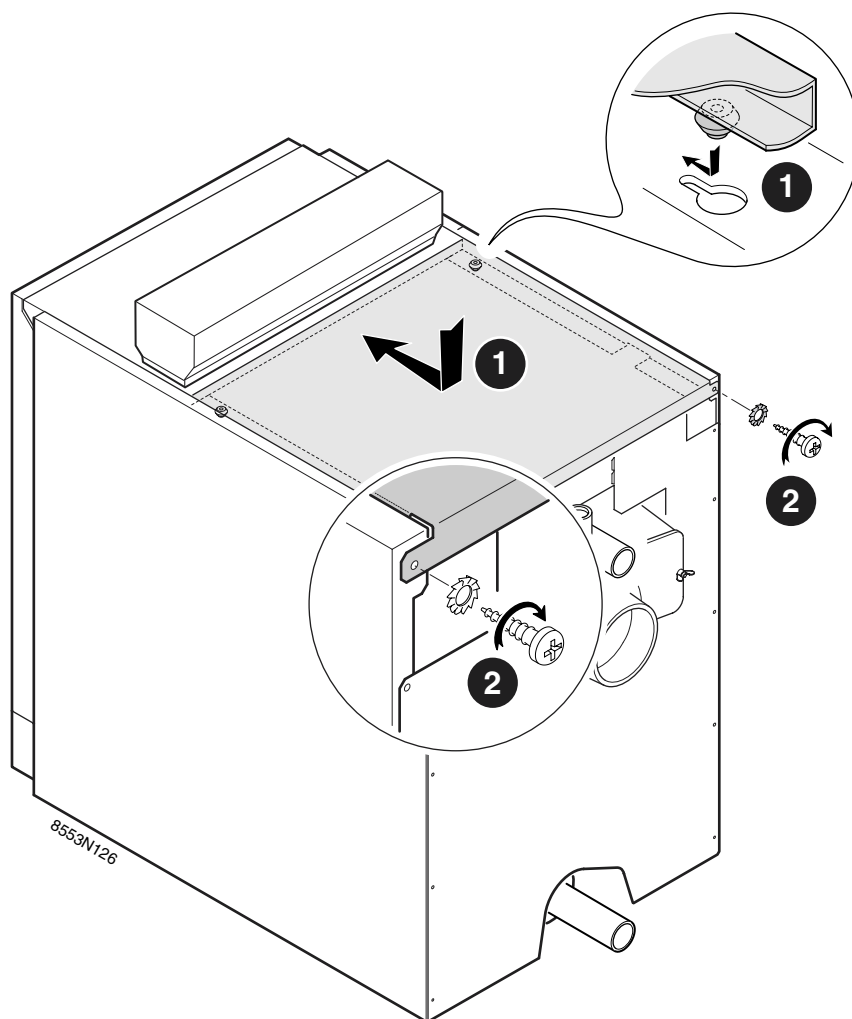
Make the electrical connections to the terminal strip provided inside the control panel. Close the control panel (2 self-tapping screws + lockwashers).

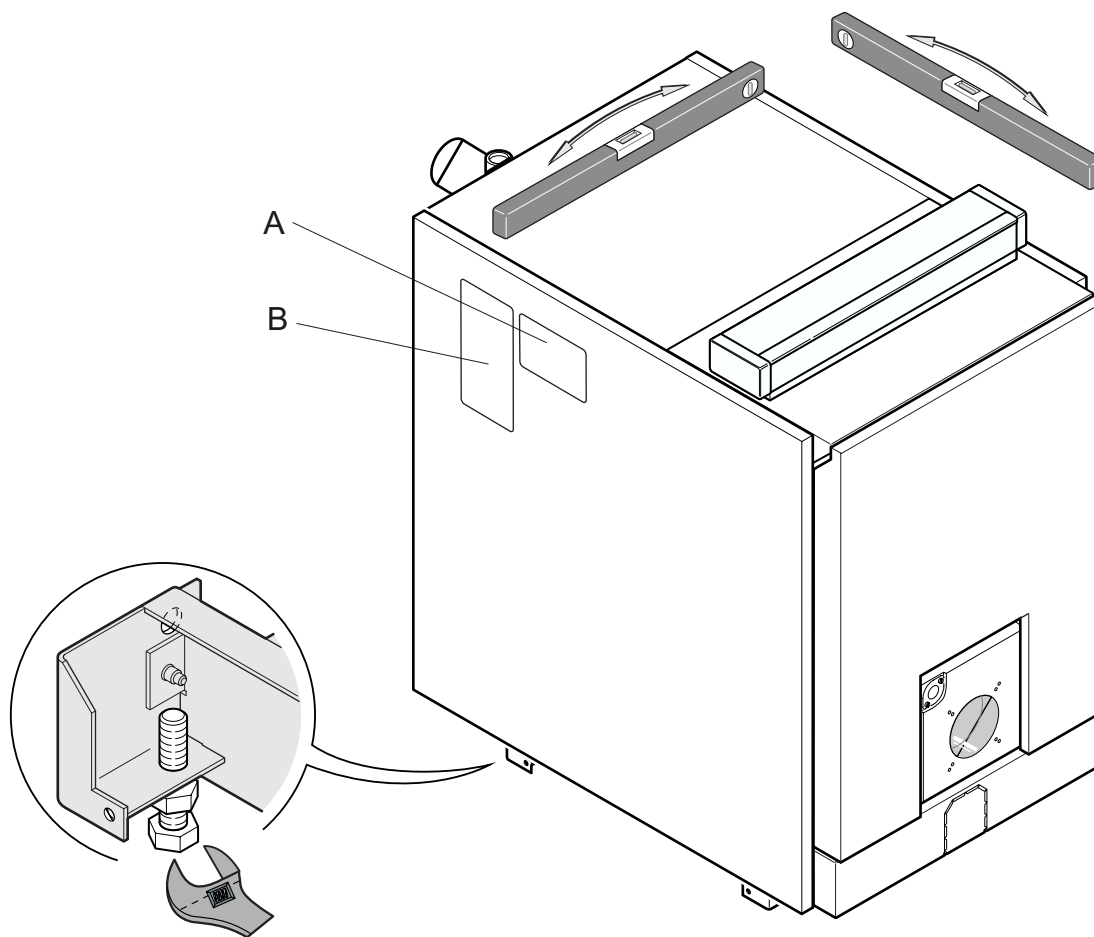
## 43











A: Stick warning label

B: Stick data plate



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The Manufacturer:



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F – 67580 MERTZWILLER

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Ni IRC : 347 555 559 RCS STRASBOURG

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