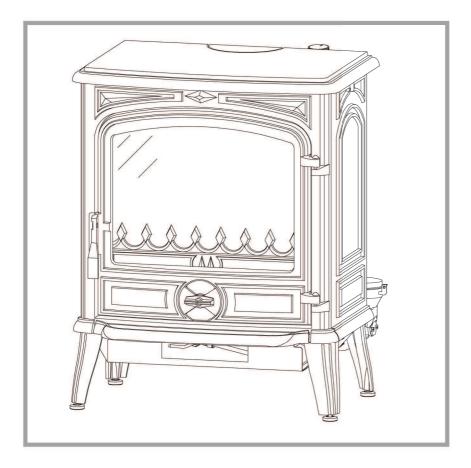


Oil burning stove

Model: 174 08 02

Norm EN1 - Class 2



Installation instructions
Operating instructions
Spare parts
Warranty certificate

## Technical manual

to be saved
by the user
for future reference



127<sup>ième</sup> RIF,15 BE 5660 MARIEMBOURG

Subject to modifications

FRANCO BELGE congratulates you on your choice.

FRANCO BELGE, which has been granted the ISO 9001 certification, guarantees the quality of its appliances and is committed to meet its customers' needs.

FRANCO BELGE, which can boast a 75-year experience in the industry of heating devices, uses state-of-the-art technologies

to design and manufacture its whole range of products.

This document contains instructions on how to install your appliance and make full use of its functions, both for your comfort and safety.

# CONTENTS

CONTENTS				
Description of the unit				
Description p. 3	Specifications p. 3			
Package p. 3	Operating principle p. 4			
Optional equipment p. 3				
Installation instructions				
Warning to the user p. 4	External / remote tank p. 6			
Position of the unit p. 4	Pre-utilization check p. 6			
Chimney p. 4	Oil flow adjustment p. 6			
Mounting the levelling feet p. 5	Chimney draft required p. 7			
Smoke exit p. 5	Maintenance of the Chimney p. 7			
Chimney connector p. 5	Door closing pressure p. 7			
Levelling p. 5	Removing the burner p. 8			
Instructions for user				
Fuel	Recommendations p. 9			
Lighting procedure p. 8	Maintenance of the stove p. 9			
Operating procedure p. 9	Trouble shooting p. 10			
Shutting down p. 9				
Spare parts				

"Savoy" - ref. 174 08 02 Description of the unit

## This appliance is an oil-fired stove.

## **WARNING**

An incorrectly installed oil-fired stove can cause serious accidents. This appliance should only be installed by competent personnel.

# 1. Description of the unit

## 1.1. Description

Flued oil stove with vaporizing burner. (Norm EN1)

## 1.2. Package

1 package: 1 stove

## 1.3. Optional equipment

- Visioflamme (mirrors)
- Glow-plug ignitor
- Ceramic coals

## 1.4. Specifications

Model	174 08 02
Nominal Heat OutputkW	8
Heated volume m3	210
Mean gas temperature C°	280
Flue mass gas flow g/s	5,63
at maximum speed liter/hr	0,95
at minimum speed liter/hr	0,25
Chimney draft required	
at maximum speed Pa	15
at minimum speed Pa	8
Weight kg	100

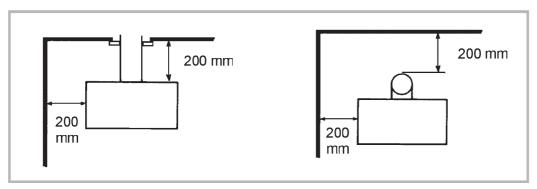


Figure 1 - Minimum clearances

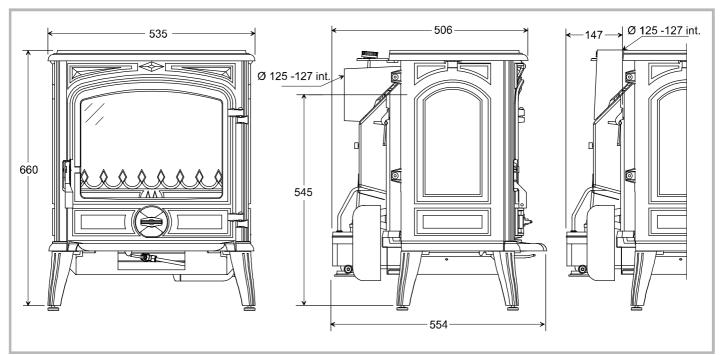


Figure 2 - Dimensions in mm

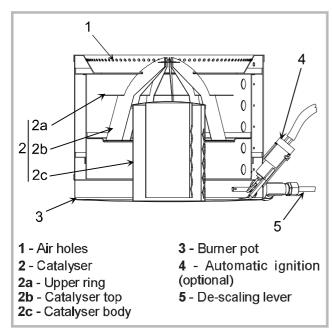


Figure 3 - Burner

## 1.5. Operating principle

Heat is mainly diffused by radiation, through the window and body of the appliance. The speed control is obtained by control the oil flow into the burner.

The stove is fitted with a vaporizing burner (fig. 3). Furnace oil is fed to the burner floor where is it ignited by means of a firestarter (or with an optional electrical igniter). The heat produced by this flame brings the burner temperature to the required level to vaporize the oil. Oil will only burn as a vapour not a liquid.

Combustion air enters the burner through the air holes (# 1, fig. 3). In the center of the burner is the catalyser (# 2), which aids the the good combustion.

On the feed-line there is a de-scaling lever (# 5). The de-scaling lever can be operated to keep the inlet pipe clear of carbon buildup.

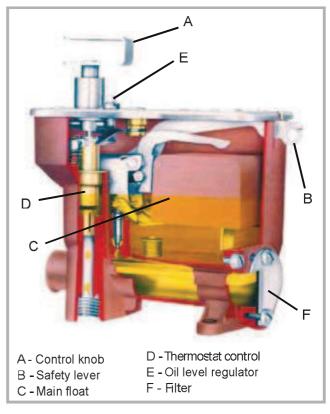


Figure 4 - Float regulator

The stove float regulator (fig. 4) contains a filter (#F) to trap impurities. A safety lever controls oil flow (#B). A float in the chamber raises the oil level available to the burner.

Oil can only enter the float chamber when the safety lever is depressed.

The carburetor is also controlled by a control knob (# 2, fig. 14, p. 8) which turns from "off" to "high setting".

A draft regulator (# 1, fig. 9, p. 6) ensures a constant air intake to the burner regardless of external factors.

## 2. Installation instructions

#### 2.1. Warning to the user

An incorrectly installed heating appliance can cause serious accidents (chimney fires, burning of plastic insulation materials, in partition walls, etc.).

The installation must be carried out according to local building regulations.

The manufacturers responsibility shall be limited to the supply of the equipment.

Aremote acting fire valve must be fitted on the oil supply line

Flexible oil lines must not be used to make connections between oil supply line and oil regulator valve.

#### 2.2. Position of the unit

#### Ventilation:

For satisfactory operation with a **natural draught**, check that sufficient air for combustion is available in the room.

In houses equipped with mechanical ventilation, an outside air intake must be installed for the chimney.

#### **Chimney position:**

For new chimney installations, select a central position within the building, to provide a good heat distribution around the building.

Position the unit to comply with the minimum clearances to combustible material (fig. 1, p. 3).

The appliance must be installed on floors able to support the stove weight. If existing construction does not meet these prerequisite, suitable measures (eg load distributing plate) should be taken to achieve this.

### 2.3. Chimney

- The flue must be in good condition and must provide sufficient draught. (refer to technical details p. 3).
- The flue must be suitable for the installation of fuel burning appliances and comply with Current Building Regulations.
- The flue must be clean . It should be swept to remove soot and dislodge tar deposits.

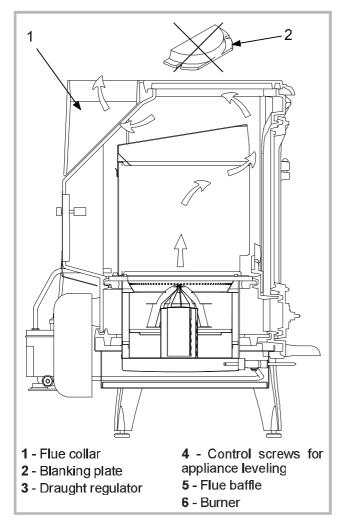


Figure 5 - Description

- The flue must be well insulated, water and air tight. A chimney with a cold internal surface can prevent a good chimney draught and condensation will occur.
- The flue must be watertight.
- The chimney must have a constant cross section.
- The flue must not be shared with any other appliance.
- The chimney must be at least 4.5 m (15 ft high).
- If the chimney has any downdraught tendency, due to its position in relation to nearby obstacles, an anti-downdraught cowl must be installed on the chimney or the chimney height must be increased.
- If the chimney draught is excessive or irregular, a draught stabilizer (barometric damper) must be installed to the connector pipe.

#### 2.4. Mounting the levelling feet

#### Figure 5, #4

Fit the 4 screws and caps supplied on the burner into each leg of the stove.

#### 2.5. Smoke exit

#### Figure 5 and 6

The rear exchanger is reversible (2 screws) so that the smoke exit can be done at rear or on the top

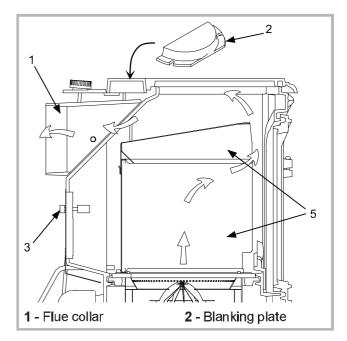


Figure 6 - Rear flue outlet

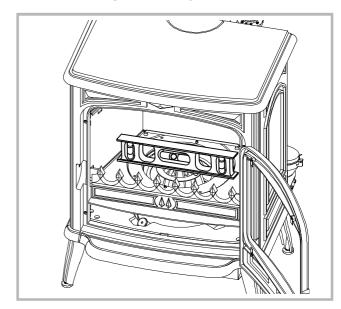


Figure 7 - Burner level check

#### 2.6. Chimney connector

- The appliance must be as close as possible to the chimney.
- The connector pipe must be approved for installation with combustion products (either 24 ga. Black painted or blued steel or 316 grade 20 ga. Stainless steel or 1 mm vitreous enamelled steel).
- Pipe diameter must not be less than the appliance spigot diameter.
- The join between the connection pipe and the stovepipe, and the flue, must be leak tight.
- The connection pipe and any draught stabiliser must have access for cleaning.

#### 2.7. Levelling

It is essential to ensure that the appliance sits level on the floor.

- Use a spirit level across the burner pot to check the level (fig. 7).

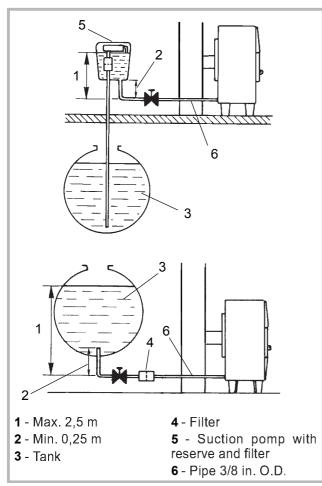


Figure 8 - Gravity oil supply Pumped oil supply

## 2.8. External / remote tank

#### Figure 8

- A barometric fuel tank should not be positionned where it will be in the direct rays of the sun or adjacent to a source of intense heat.
- If the tank is more than 8 ft (2,5 m) higher than the stove a pressure reducer must be installed on the oil line (max. working pressure : 300 mbar).
- If the tank is lower than the stove a lift pump will have to be utilized.
- A clearance of 6 " (15 cm) must be maintained between the external/remote tank and the stove.

#### 2.9. Pre-utilization check

- Check that the glasses are not damaged.
- Check that the door closes correctly.
- Check that all removable parts (baffle, catalyser, ring, etc.) are correctly installed.
- Check that the seals of the smoke-line are in good condition.
- -Check that the seals of the feed-line are in good condition.
- -Light the appliance by referring to the operating instructions.

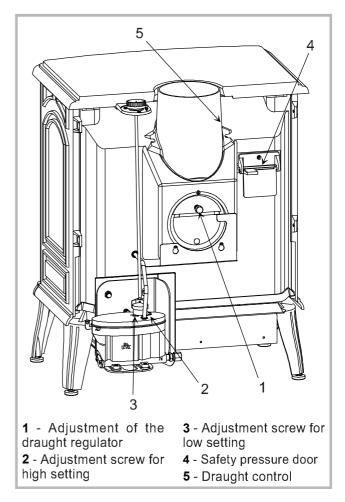


Figure 9 - Adjustment devices

#### 2.10. Oil flow adjustment

The float regulator has been adjusted at the factory and should not need further adjustment.

The eventual re-fit must be realized by a qualified engineer.

If the burner does not work correctly, check possible causes before readjusting the settings:

- Chimney draught
- Fresh air inlet
- Oil supply.

#### Minimum speed (#3, fig. 9):

- Set the regulating knob on minimum speed (# 3) and let the burner run for a few minutes. The flame must completely cover the bottom of the burner and the catalyser body must be glowing red hot.
- If the flame is too small, the stove will soot up quickly; increase the flame by turning the setting screw (# 3) clockwise.
- If the flame is too high, reduce the flame by turning the setting screw (# 3) counter clockwise.

#### Maximum speed (# 2, fig. 9):

- Set the regulating knob on maximum speed (# 2) and let the burner run for a few minutes. The flame must be shaped like a cone and reach the upper part of the door.
- If the flame is too low, increase the flame by turning the setting screw (# 2) counter clockwise.
- If the flame is too high, reduce the flame[by turning the setting screw (# 2) clockwise.

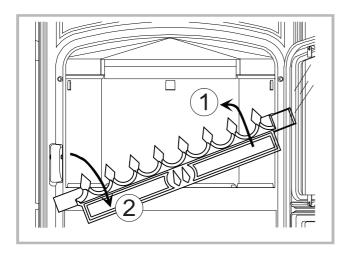


Figure 10 - Removing the front grate

Please note - **Very important**: The adjustments of the float regulator are very sensitive. The high and the low setting screws must never be turned more than a 1/4 of a turn at a time in any direction from their initial setting. When making any adjustments, allow 3 to 5 minutes between adjustments to allow burner to stabilize to previous adjustment before proceeding, if necessary.

## 2.11. Chimney draft required

The reading of the draught must be done once the unit is hot (minimum 30 minutes of use).

Refer to the specifications (page 3) for minimum draught requirement. The eventual re-fit must be realized by a qualified engineer.

The adjustment of the draught will be made with the barometric damper located at the back of the stove (# 1, fig. 9)

## 2.12. Maintenance of the Chimney

Chimney condition should be checked at least once per year.

If the appliance is regularly used, the chimney should be swept several times per year, together with the stovepipe connection section (and also the flue baffles).

- First remove the flue baffle (fig. 11)
- -The barometric damper (draught regulator # 1, fig. 9) should be checked at least once per year.

#### 2.13. Door closing pressure

#### Figure 12

The closing latch rotates around a pressure screw positioned cam.

- Remove gently the ceramics rope,
- Loosen pressure screw (# 1),
- Turn cam (# 2) to desired position,
- Tighten pressure screw (# 1).

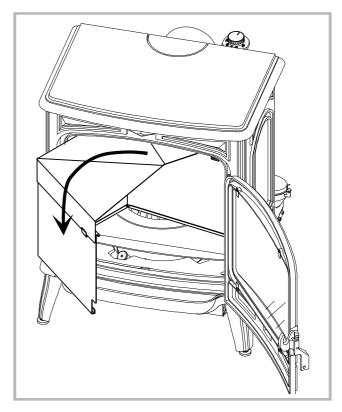


Figure 11 - Removing the flue baffle

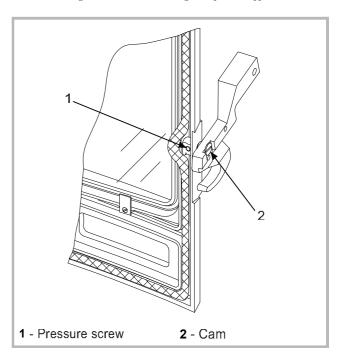


Figure 12 - Door closing pressure

"Savoy" - ref. 174 08 02 Instructions for user

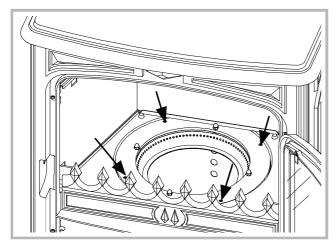


Figure 13 - Removing the burner

## 2.14. Removing the burner

To remove the burner: Remove the lower panel and the magnet support, disconnect the feed line from the de-scaler nut, unscrew the 4 burner fixing nuts.

## 3. Instructions for user

Franco Belge will not be responsible for damages on parts of the appliance due to the use of prohibited fuel or due to an alteration of the appliance or its installation.

Only use replacement parts supplied by the manufacturer.

#### 3.1. Fuel

Your stove is fitted with a specific float regulator for a specific oil.

The fuel oil must be free from any dirt and water, which could disturb the stove in operation.

### 3.2. Lighting procedure

#### Figure 14

Don't light the appliance when it is hot. Wait until the burner is completely cool before repeating the lighting procedure.

- Be sure the control knob (# 2A) is to "0".
- Turn on oil supply,
- Push down gently on the safety lever (# 4). This will allow the oil to flow into the float regulator.
- Open the front door, and remove the catalyser from burner (#2, fig. 3, p. 4). Make sure the inside of the pot is clean thoroughly, and there is no oil accumulation.
- Place 2 tablespoons of methylated spirit or gelled alcohol in the bottom of the pot.
- -Light the starter gel or methylated spirit with a fireplace match or long butane lighter.
- Place the catalyser back into the burner, being sure it is centered in the burner. Shut the main door.
- Allow the burner to heat approximately 30 to 45 sec. Turn dial to "1" position (# 2B).
- Allow 10 to 15 minutes for oil fire and draught to stabilize. The catalyser (or the ring) should glow red before adjusting the control knob to a higher setting (#2C).

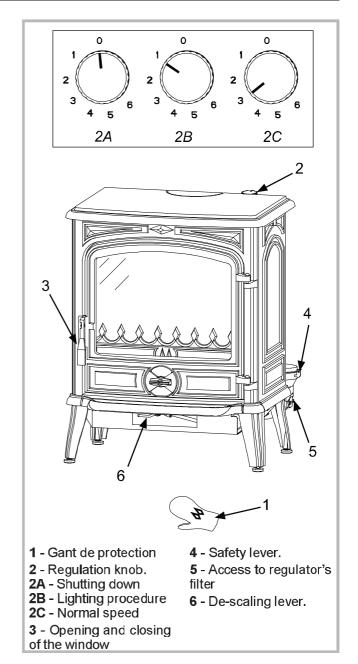


Figure 14 - Operating devices

"Savoy" - ref. 174 08 02 Instructions for user

### 3.3. Operating procedure

- Allow 10 to 15 minutes after lighting to adjust the control knob to a higher setting, usually (# 2C) setting.
- When increasing the heat output, move the control knob only 1 number at a time, allowing 5 minutes between moves for the flame to re-adjust to new setting.
- If the burner stops during operating, immediately turn off the control knob position "0" (# 2A) and wait until the burner is completely cool before repeating the lighting procedure.

## 3.4. Shutting down

#### Figure 14

- Set dial to the (# 2A) position.
- Allow the flame to burn out completely before opening the door (# 3).

#### 3.5. Recommendations

- The adjustment of the stove has been made at the factory and checked by your installer. In case of trouble shooting, do the usual maintenance operations. If problem persists call your installer.
- This room heater is a high heat producing appliance and may cause severe burns if touched on the glass front door, or on top directly over the burner - keep children away.
- CAUTION: Never light the burner if there is any amount of oil in pot. Clean out oil before lighting.
- Too much oil in pot may cause a racing : a very high flame generating vibrations.

#### In case of racing:

- Turn off oil supply.
- Set dial to the "0" position (# 2A, fig. 14, p. 8).
- Wait until the burner is completely cool before repeating the lighting procedure.
- **Do not overfire**. If the unit or chimney connector starts to glow you are overfiring.

#### 3.6. Maintenance of the stove

• Every week: operate the de-scaling lever (# 6, fig. 14, p. 8). Pull the rod, then push the rod in rotating 360 degrees two or three times.

(CAUTION: The rod is HOT).

- Every 3 or 4 months: Clean the burner completely.
- Remove and brush off the parts of the catalyser, using a soft bristle brush.
- Loosen any carbon soot from the burner with a putty knife, and vacuum clean. Ensure that the small air holes are free of carbon.
- When replacing the burner, tighten the nuts evenly and connect the pipe so as to be airtight.
- At least once a year / End of heating season: Clean or replace the oil filters of the oil supply line (# 5, fig. 14, p. 8) and to change the joint of the de-scaling lever (rep. A, fig. 15, code 142889) by a professional installer.

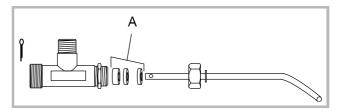


Figure 15 - The joint of the de-scaling lever

#### To clean the filter of the float regulator :

- Set the regulation knob in closed position "0" (# 2A, fig. 14, p. 8).
- Turn off the tankvalve or the valve of the oil supply line.
- Place a small container (or a small rag) under the regulator filter opening in order to collect the oil contained in the regulator.
- Remove the filter cover plate located under the regulator (# 5, fig. 14, p. 8) with a screwdriver,
- Remove the tubular filter from the regulator. Clean it with oil using a soft brush, never a wire-brush.
- Replace the filter in the regulator, install the cover plate and secure with the screw.

**¤** Use a soft clean cloth to wipe the front glass when the unit is running at a low burning rate.

**¤** When the main door is opened for cleaning, the flame will be disturb, and turn to a yellow flame. Clean quickly, but gently. Close the door, the flame will return to a normal burning position.

**¤** Clean all the enamelled panels of the stove with a dry or slightly damp soft cloth.

#### DO NOT CLEAN GLASS WHEN HOT.

"Savoy" - ref. 174 08 02 Instructions for user

## 3.7. Trouble shooting



☑ : This sign means that you should asked for a qualified engineer to do the work.

Situation	Probable causes	+	- Corrective action
Flames extinguish during lighting.	¤ Very cold chimney. No draught established.		- Leave door ajar until fire has caught. Check air supply in the room (page 4).
Fire extinguishes once firestarter has burnt off.	¤ Fuel tank is empty.		- Fill tank.
illestarter has burnt on.	¤ Fuel valve is closed.		- Open valve.
	¤ Main regulator float not engaging.		- De-press the safety lever.
	¤ Control knob is set on "0"		- Adjust control knob to "1" (minimum speed).
Fire extinguishes during use.	¤ Fuel tank is empty.		- Fill tank.
	¤ Insufficient fuel.		<ul> <li>Check that the de-scaler, the float regulator filter and burner pot are cleaned.</li> </ul>
Flame is excessively large, smoky and sooty.	<b>¤ Insufficient draught.</b>	$\checkmark$	- Call your installer.
omony and cooly.	¤ Fuel adjustment made too quickly.		<ul> <li>Return control knob to minimum speed "1"; wait for normal combustion. (catalyser should glow red); wait 5 to 15 minutes between each adjustment.</li> </ul>
Stove extinguishes and re-lights itself.	¤ Insufficient fuel.		<ul> <li>Check that the de-scaler, the float regulator filter and burner pot are cleaned.</li> </ul>
Stove burns noisily.	¤ Burner contains excess fuel.		<ul> <li>Adjust control knob to minimum speed "1". If problem persists call your installer.</li> </ul>
Fire smokes. Soot build up noticed. Flame imbalance	¤ Insufficient air supply.		<ul> <li>Increase fresh air supply (open door, window; add make up air supply).</li> </ul>
	Downdraught or blockage in chimney.	V	<ul> <li>Check chimney for soot build up. Clean if necessary.</li> <li>Ensure chimney height is sufficient and cap is not affected by any nearby obstructions. If problem persists call your installer.</li> </ul>
			<ul> <li>Room is in negative pressure. Increase fresh air supply (page 4).</li> </ul>
	Oil flow is too low on minimum speed setting.	V	<ul> <li>Adjust low flow rate while control is set on "1", call your installer.</li> </ul>
	¤ Stove is not level. Flame imbalance.		- Check level. Adjust if necessary.
	¤ Catalyser not centered.		- Center catalyser assembly
	The draught regulator is blocked in open position.	V	<ul> <li>Unlock the draught regulator. Check the draught regulator [adjustment and refit, if necessary].</li> </ul>
Coke build up noticed.	¤ Insufficient fuel.	<b>V</b>	- Check level. Check that the de-scaler, the float regulator filter and burner pot are cleaned.
	¤ Excessive draught	V	<ul> <li>Check draught. If always excessive, a draught stabilizer (barometric damper) must be installed to the connector pipe.</li> </ul>

"Savoy" - ref. 174 08 02 Spare parts

# 4. Spare parts

When ordering spare parts, specify the stove type and serial number, including the colour index (on the guarantee or identification plate), the name of the part and the part number.

**Example**: Stove 174 08 02, Leg 300128 EF

N°	Code		Description Type Qty	N°	Code		Description Type Qty
1	100917		Cam pin 12x20 M7 01	34	300128	EF	Leg
2	104708		Plug	35	300488		Base
3	905330		Complete burner 01	36	301526	EF	Door lock
4	109552		Cap	37	303301	EF	Bearing
5	109718		Chain	38	303625	EF	Top plate
6	110105		Barometric damper 01	39	303872	E۲	Flue collar
7	110404		Hinge pin 6x30 02	40	909401		Sliding door
8	119216		Descaler	41	306282		Back wall
9	119801		Bushing	42	307438		Fuel retainer
10	134107		Glove	43	310732	Ł٢	R. side panel 01
11	134258		Bushing	44	310829	EF	L. side panel 01
12	134601		Pin 2x20 01	45	312633		Burner support
13	181632		Adhesive rope 1,30 m	46	327903	EF	Tray
14	142316		Gasket 7x3 0,53 m	47	331111	EF.	Main door
15	142874		Gasket	48	331500		Bracket
16	149868		Knob01	49	352159	EF	Top plate
17	162664		Descriptive plate 01	50	359800	EF	Front plate
18	164205		Tightness nut 02	51	622507		Flue baffle
19	165065		Float regulator 01	52	182802		Vent-pipe
20	179622		Regulator shaft 01	53	182803		Feed line regulator-burner 01
21	181607		Ceramic rope Ø 9,5 1,60 m	54	199204		Regulator filter 01
22	105006		Ceramic rope Ø 15 1,60 m	55	194401		Catalyser cover 01
23	188820		Glass	56	194402		Catalyser body 01
24	189825		Screw	57	198205		Catalyser ring 01
25	209918		Protector	58	905329		Burner
26	236511	60	Burner support 01	59	189118		Screw d. 10 01
27	239723	60	Regulator support 01	60	988877		Complete door
28	259015		Fixing plate 04	61	142881		Ceramic rope
29	260585		Heat shield	62	332200	60	Ground vat
30	261817		Heat shield	63	122618		Fix fast
31	262220	60	Shield	64	134607		Pin 2x32 01
32	262609	•	Heat shield	65	161077		Extendeur
33	276230		Reflector	66	100144		Adapter
				Optinal parts			
				80	199320		Refractory glass

"Savoy" - ref. 174 08 02 Spare parts

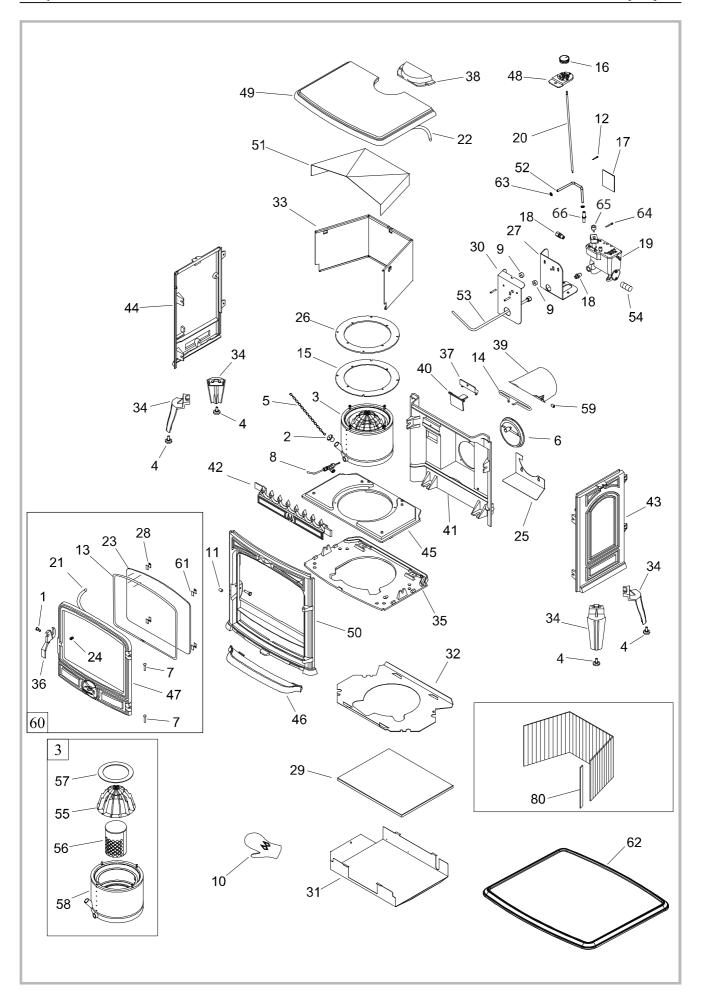


Figure 16 - Spare parts view

Notes

"La chaleur en toute confiance"

§ Guarantee certicate §

#### **№** Legal guarantee

The specifications, dimensions and information shown on our documents are provided for information purposes only and under no circumstances are binding upon the vendor.

With the aim of constantly improving our equipment, all modifications considered as necessary by our departments may be made without notice.

The provisions of the present guarantee certificate are not excluding or limiting the owner of the equipment's rights, concerning the legal guarantee regarding faults or hidden vices which applies in all circumstances, in the conditions detailed in articles 1641and following of the civil code, and in the country in which the equipment was purchased.

#### **№** Contractual guarantee

Our equipment is guaranteed against faults and hidden vices subject to the following conditions:

- 1) Installation and adjustment of the device by a professional installer.
- Observance of the instructions provided in our technical documents and our installation/adjustment instructions.
- 3) The installation, use and maintenance of the device carried out in conformity with the applicable standards and legislation, and with the indications provided in the technical instructions accompanying the device.

This guarantee covers the replacement, in our factory, of parts recognised as being defective from the outset by our "Guarantee Inspection" Department. Carriage and

labour is at the user's cost. Moreover, if the repair or replacement of parts covered by the guarantee is found to be too costly vis-à-vis the price of the appliance, the decision to replace or repair the appliance will be taken by the vendor.

Our guarantee is for 2 (two) years for all appliances, with the exception of burners and inserts for which our guarantee is 5 (five) years excluding the following:

- 1) Indicator lights, fuses, electrical elements and fans.
- 2) Parts subject to wear or in contact with high temperatures namely: soles and burner grills, bottom plates baffles, ash pans, paintwork and surface treatments for decorative parts. Also excluded from this guarantee are seals and windows.
- Any damage which may result from the use of the appliance with a fuel other than that stipulated in our instructions.
- 4) Damage occurring to parts caused by elements outside the appliance (down draught, storm damage, damp, abnormal pressure or vacuum, heat shocks, etc.).
- 5) Damage to electrical parts caused by plugging in and using the appliance on a mains system, the voltage of which (measured at the entrance to the appliance) is 10% above or below the nominal voltage of 220 V.

#### **№** Exclusion of liability

In the case of a product manufactured at the client's request, under no circumstances may we, as a subcontractor, be considered liable vis-à-vis the client or third parties for defects arising from the installation or a design fault with the item in question.

$\bowtie$	Name and address of the installer :
*	Telephone :
×	Name and address of the customer :
Date	e of installation ://
Mod	lel of the appliance : <b>174 08 02</b>
Cold	or : <b> Y</b>
Seri	al number :
	This certificate has to be completed and kept carefully.
	In case of claims, send a copy of this to :
	FRANCO BELGE∳♦
	"La chaleur en toute confiance"
	127 <sup>ième</sup> RIF,15 BE,5660 MARIEMBOURG