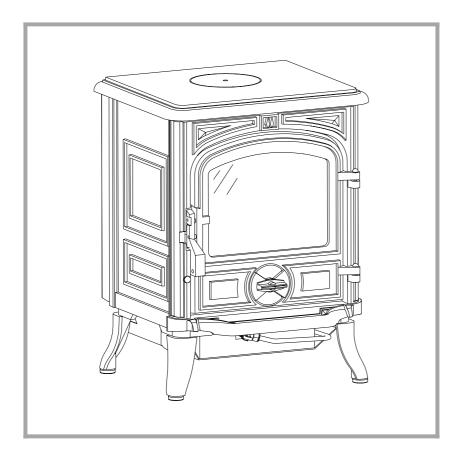
Belfort

Oil fired stove

Model: 174 05 05

(EN 1)

CAN/CSA approved / ANSI/UL approved



Description of the appliance

Installation instructions

Operating instructions

Spare parts

Document n° 979-3 EN ~ 28/08/2000

English

Norsk

Technical manual

to be saved
by the user
for future reference



FRANCO BELGE

Les Fonderies Franco-Belges 59660 MERVILLE Phone: 03.28.43.43.43 Fax: 03.28.43.43.99 RC Hazebrouck 445750565B 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.

CONTENTS	Page	Pa	age
Description of the unit			3
Package	3	Description	. 3
Optional equipment	3	Operating principle	. 4
Specifications	3		
Installation instructions			4
Position of the unit	4	Levelling	. 6
Chimney	4	Pre-utilisation check	. 6
Mounting the levelling feet	5	Oil flow adjustment	. 6
Top flue outlet	5	•	
Rear flue outlet	5	Chimney draught	. 7
Chimney connector	5	Door closing pressure	. 7
External tank	6	Maintenance of the Chimney	. 7
Operating instructions			8
Fuel	8	Maintenance of the stove	. 8
Lighting procedure	8	Recommendation	. 9
Operating procedure	8	Trouble shooting	10
Shutting down	8		
Snare narts			11

1. Description of the unit

1.1. Package

 $\tt m$ 1 package. The stove is supplied completely assembled except the four levelling feet that are placed on the burner.

1.2. Optional equipment

- ¤ Ground vat
- ¤ Glow-plug ignitor

1.3. Specifications

Model	174 05 05
Nominal heat output	5
	18.000
Oil consumption at :	
- maximum speed litre/h	0,58
US gal/hr	0,16
- minimum speed litre/h	0,17
	0,045
Chimney draught required at :	
- maximum speed Pa	15
	0,06
- minimum speed Pa	8
in.w.g.	0,032
Weightkg	67,6
	149

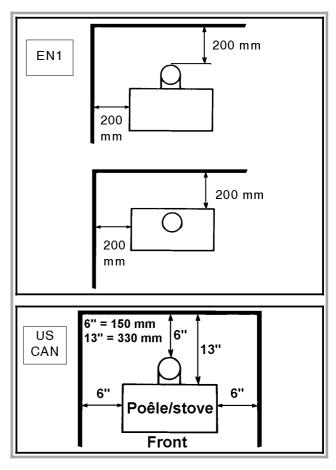


Figure 1 - Minimum clearances to combustible walls

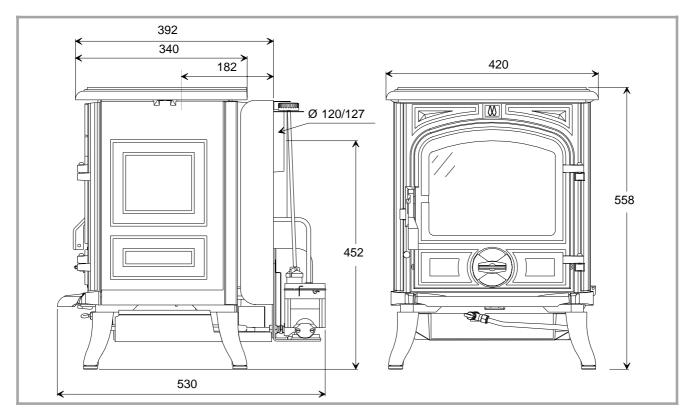


Figure 2 - Dimensions in mm

1.4. Description

Flued oil stove with vaporizing burner (Norm EN 1).

1.5. Operating principle

Furnace oil is fed to the burner floor (fig. 3) where is it ignited by means of a firestarter (or the Glow-plug ignitor # 6). The heat produced by this flame brings the burner temperature to the required level to vaporize the fuel. Oil will only burn as a vapour not a liquid.

Room combustion air enters the burner through the air inlet holes.

In the center of the burner is the catalyser (# 4, fig. 3) which aids in vaporizing the fuel. When the stove is operation, the catalyser glows red. The stove should not be used with out both the catalyser (# 4, fig. 3), catalyser top (# 3) and ring (# 2).

A de-scaling lever (# 7, fig.3) can be pushed and pulled in and out as well as turning slightly at the same time to keep the inlet pipe clear of carbon buildup.

The stove float regulator contains a filter to trap impurities.

A safety lever controls fuel flow. Oil can only enter the float chamber when the safety lever is depressed.

Oil temperature variations will affect the oil flow into the float chamber. A float in the chamber raises the fuel level available to the burner.

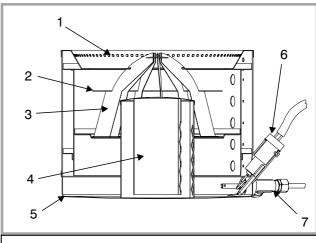


Figure 3 - Burner

- 1 Air holes
- 5 Burner
- 2 Upper ring
- 6 Glow-plug ignitor
- 3 Catalyser top
- (optional)
- 4 Catalyser
- 7 De-scaling lever

The float regulator is also controlled by a control knob which turns from "0" (off) to "6" (high setting).

A draught regulator (# 1, fig. 13, p. 7) ensures a constant air intake to the burner regardless of external factors.

2. Installation instructions

USA / CANADA: The installation of this stove must comply with state and local requirements and the standard CSA B139.

SAFETY NOTICE: Read carefully all instructions before starting the installation. If the stove is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection in your area.

2.1. Position of the unit

- The position of the appliance must be chosen very carefully in order to obtain the best possible results for heat distribution.
- Position the unit to comply with the minimum clearances to combustible material. Minimum clearances are shown from the vertical portion of the chimney connector. Check that no overhead cross members in the ceiling will be cut. Reposition unit if necessary, being careful not to move closer than the minimum clearances.
- Outside air : For the oil stove to function properly, an adequate supply of combustion air is required.

2.2. Chimney

- Ensure that the flue has sufficient draught (refer to technical details).

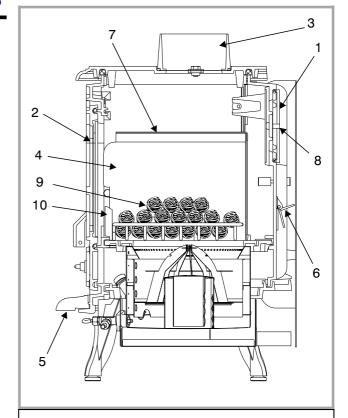


Figure 4 - Description

- 1 Blanking plate
- 2 Main door
- 3 Flue collar
- 4 Baffle
- **5** Tray

- 6 Sliding door
- 7 Supplementary baffle
- 8 Draught control
- o Draugrit conti
- 9 Ceramic coal

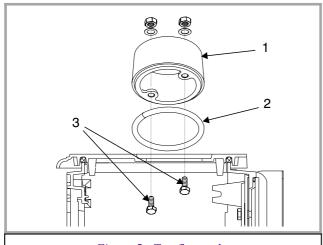


Figure 5 - Top flue outlet

- 1 Flue collar
- 3 Screws, washers and bolts
- 2 Sealing rope
- Minimum flue diameter, 10 cm (4" I.D).
- The chimney must be at least 4.5 m (15 ft high).
- The flue must not be shared with any other appliance.
- Downdraughts caused by obstacles close to the chimney top may sometimes be prevented by fitting an anti-downdraught cap to the top of the chimney.
- The chimney must have a constant cross section. Too large a flue could affect the chimney draught.
- The chimney must be soundly constructed, in order to prevent cold air infiltration.
- 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 swept at least once a year.

2.3. Mounting the levelling feet

Fit the 4 screws and the 4 caps supplied (on the burner) into each leg of the stove (fig. 8).

2.4. Top flue outlet

Figure 5

- Open the main door, remove the ceramic coal grate with theirs coal (# 9 and 10, fig. 4, p. 4) and remove the internal baffle (# 4 and 7, fig. 4, p. 4).
- Fix the sealing rope in the groove on the top and fit the flue spigot using the two bolts and washers supplied, ensuring there is a good seal.
- Replace the internal baffles.

The cut-out of the rear heat shield **must not be remove** in the case.

2.5. Rear flue outlet

Figure 7

- Open the main door, remove the ceramic coal grate with theirs coal (# 9 and 10, fig. 4, p. 4) and remove the internal baffle (# 4 and 7, fig. 4, p. 4).
- Remove the rear heat shield and the cut-out on it (fig. 6).
- Remove the blanking plate **5** and the clamp **4** from the back and refit them on the top with the 2 screws and washers supplied **7**, ensuring there is a good seal **2**.

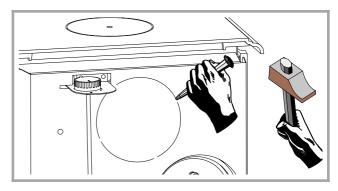


Figure 6 - Back panel

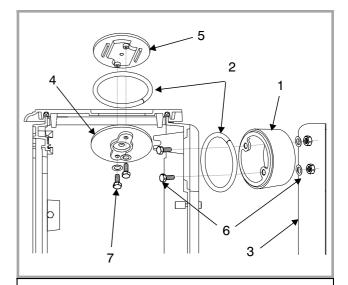


Figure 7 - Rear flue outlet

- 1 Flue collar.
- 2 Sealing rope.
- 3 Back panel.
- 4 Clamp.
- 5 Blanking plate.
- 6 Screws, washers and
- bolts.
- 7 Screws and washers.

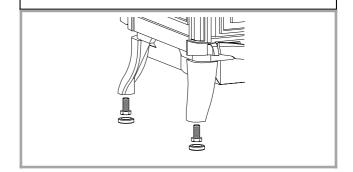


Figure 8 - Levelling

- Set the ceramic rope in the groove and fix the flue collar at rear with 2 bolts and washers supplied.
- Reinstall the internal baffles.
- Replace the rear heat shield.

2.6. Chimney connector

- The appliance must be as close as possible to the chimney. Avoid horizontal flue connection pipes which can dangerously restrain functioning of the appliance.
- The connector pipe must be either 24 ga. black painted or blued steel or 316 grade 20 ga. stainless steel or 1 mm vitreous enamelled steel, with a maximum diameter of 127 mm (5" O.D.). Single wall

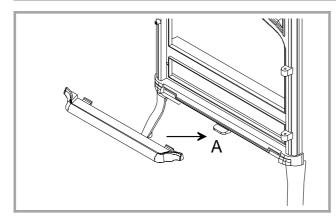


Figure 9 - Fitting the tray

pipe may be utilized being careful to maintain clearances to any combustible surface.

Once the stove has been properly installed the chimney draught must be checked with a draught meter.

If the chimney draught is excessive or irregular, a draught stabilizer (barometric damper) must be installed to the connector pipe.

2.7. Connection to a L.VENT chimney

USA / Canada: The 174 10 44 appliance is certified to be connected to a 5" L.VENT chimney.

2.8. External tank

When the stove is connected to an external or remote tank, it must be secured to the floor. The bracket is included (# 2, fig. 12)

A barometric fuel tank should not be positioned 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. Levelling

It is essential to ensure that the appliance sits level on the floor. Adjust the levelling feet (fig. 8).

Use a spirit level across the burner pot to check the level (fig. 10).

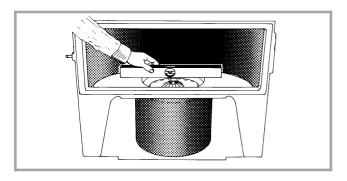


Figure 10 - Burner level check

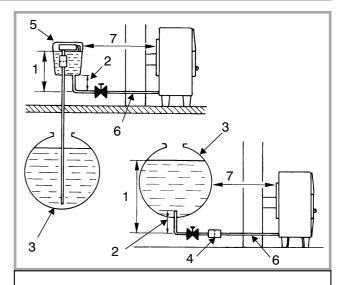


Figure 11 - Gravity or pumped oil supply

- 1 2,5 m maxi
- 2 At least 0,25 m
- 3 Oil Tank 4 - Filter
- m reserve and filter 6 - Pipe Ø 6x8 mm
 - 7 At least 0,15 m

5 - Suction pump with

2.10. Pre-utilisation check

Check the condition of the filler seals, that the door closes correctly, that the window is not damaged, that the smoke passages are not obstructed by packaging or removable parts. All removable parts, fuel retainer, baffle, must be correctly installed.

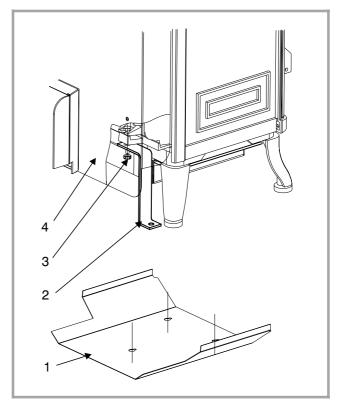


Figure 12 - Bracket

- 1 Bottom shield
- 3 Nut
- 2 Bracket
- 4 Back panel

2.11. Oil flow adjustment

The float regulator has been adjusted at the factory and should not need further adjustment. If the burner does not work correctly, check possible causes before readjusting the settings:

- Chimney draught
- Fresh air inlet
- Oil supply.

Low setting (Refer to # 2, fig. 13):

- set the regulating knob on "1" 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 (# 2) clockwise.
- if the flame is too high, reduce the flame by turning the setting screw (# 2) counter clockwise.

High setting (Refer to # 3, fig. 13):

- set the regulating knob on "6" 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 counter clock wise.
- if the flame is too high, reduce the flame by turning the setting screw clockwise.

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.

2.12. Chimney draught

Once the stove has been properly installed, the chimney draught must be checked.

The adjustment of the draught will be made with the barometric damper located at the back of the stove (# 1, fig. 13).

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

Refer to the specifications p. 3 for minimum draught requirement on low setting and on high setting.

2.13. Door closing pressure

The closing latch rotates around a pressure screw positioned cam (fig. 14).

- Loosen pressure screw 1.
- Turn cam to desired position 2.
- Tighten pressure screw 1.

2.14. Maintenance of the Chimney

Chimney and chimney connector should be inspected at least once every three months during the heating season to determine if a soot build up has occurred. If soot has accumulated, it should be removed to reduce the risk of a chimney fire.

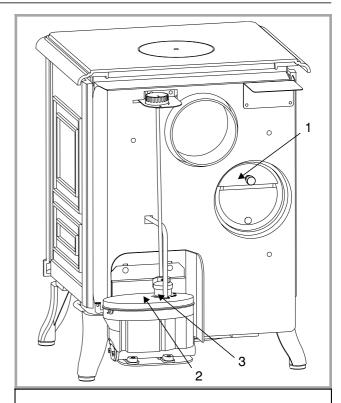


Figure 13 - Adjustment devices

- 1 Adjustment of the draught regulator
- 2 Adjustment screw for low setting
- 3 Adjustment screw for high setting

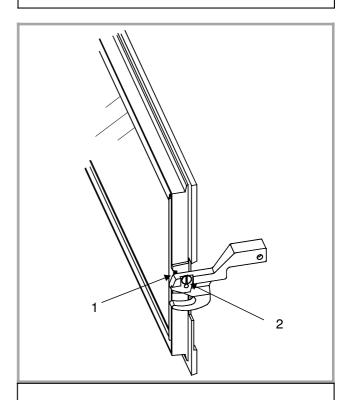


Figure 14 - Door closing pressure

- 1 Pressure screw
- 2 Cam

3. Operating instructions

3.1. Fuel

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

m Kerosene 28 sec. (1,8 cst at 25°C)

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

3.2. Lighting procedure

- Be sure the control knob is to "0" (# 1, fig. 15).
- Turn on oil supply,
- Push down gently on the safety lever (# 2, fig. 15). This will allow the oil to flow into the float regulator.
- Open the front door, and remove the catalyser from burner (# 2, 3 and 4, 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 catalyser to heat approximately 30 to 45 sec. Turn dail to "1" position.
- Allow 10 to 15 minutes for oil fire and draught to stabilize. The catalyser should glow red before adjusting the control knob to a higher setting.

3.3. Operating procedure

Allow 10 to 15 minutes after lighting to adjust the control knob to a higher setting, usually between a "2" and "4" 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") and wait until the burner is completely cool before repeating the lighting procedure.

3.4. Shutting down

- Set dial to the "0" position (# 1, fig. 15).
- Raise the safety lever of the float regulator (# 2, fig. 15).
- Allow the flame to burn out completely before opening the door.

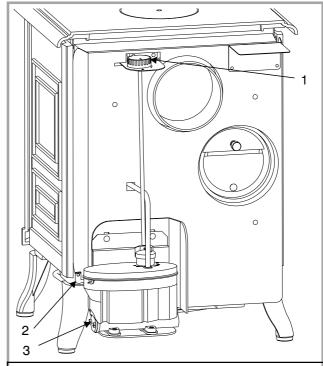
3.5. Maintenance of the stove

Every week: operate the de scaling lever (#4, fig. 15).

- 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 all the parts of the catalyser (# 2, 3 and 4, fig. 3, p. 4)
- Using a soft bristle brush (a small clean paint brush), carefully brush off the catalyser. Loosen any carbon



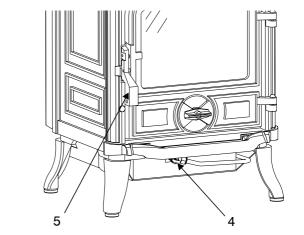


Figure 15 - Operating devices

- 1 Regulation knob.
- 2 Safety lever.
- 3 Access to float regulator filter.
- 4 De-scaling lever.
- 5 Door handle.

soot from the bottom of the burner with a putty knife, and vacuum clean. Ensure that the small air holes in burner are free of carbon.

At least once a year / End of heating season: Clean or replace all the oil filters in the oil supply line.

To clean the filter of the float regulator:

- set the regulation knob in closed position "0" (# 1, fig. 15),
- turn off the tankvalve or the valve of the oil supply line,
- raise the safety lever of the float regulator (# 2, fig. 15).
- place a small container (or a small rag) under the float regulator filter opening in order to collect the oil contained in the float regulator,

- remove the filter cover plate located under the float regulator (# 3, fig. 15) with a screwdriver,
- remove the tubular filter from the float regulator. Clean it with oil using a soft brush, never a wire-brush,
- replace the filter in the float regulator, install the cover plate and secure with the screw.

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

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.

N.B.: The appearance of cracks when burning the enamelled units is quite usual and tends to disappear when the appliance is cooling down. It should not be considered as a defect but rather as a patina of the enamel which does not affect its quality nor its service ability.

3.6. Recommendation

The adjustment of the stove has been made at the factory and checked by your installer. Any anomaly of operation should be reported to him at once.

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 - Do not use for drying wet clothing.

CAUTION: Never light the burner if there is oil in the burner pot. Clean out oil before lighting.

Racing: An audible fluttering sound is an indication that there is too much oil in the pot burner and/or a lack adequate draught.

- turn off oil supply and set the control knob in closed position "0" (# 1, fig. 15, p. 8).
- until fire has decreased to proper burn rate.

Do not overfire: If the stove or chimney connector starts to glow, you are overfiring.

3.7. Trouble shooting



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

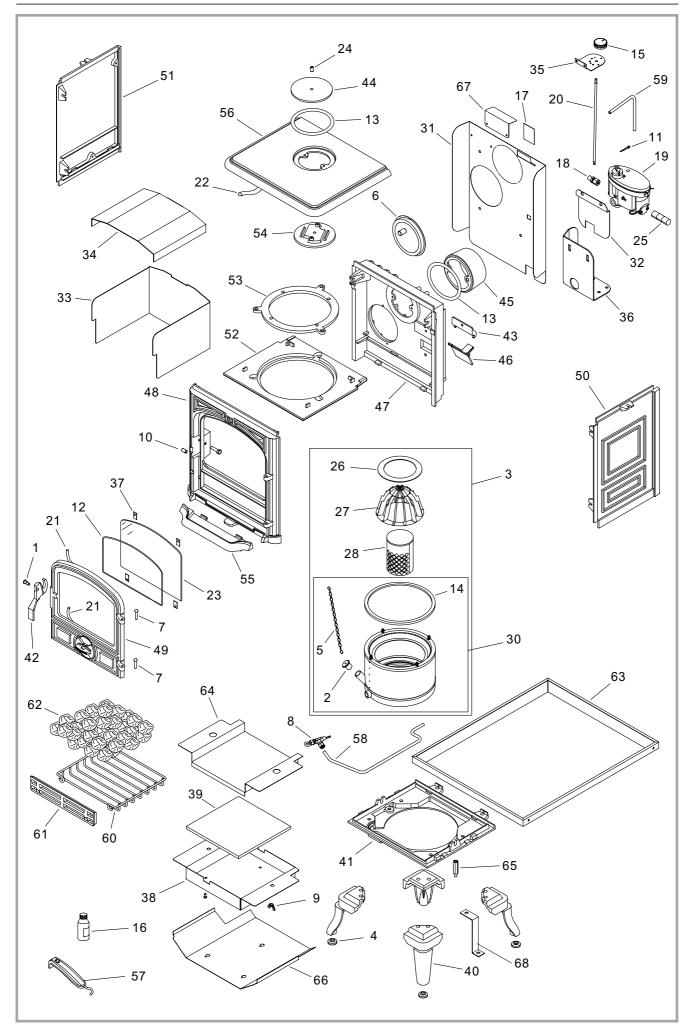
SYMPTOM	PROBLEM	—	- TEST SOLUTION			
Flames extinguish during lighting.	¤ Very cold chimney. No draught established.	·	Leave door ajar until fire has caught. - Check air supply in the room.			
Fire extinguishes once firestarter has burnt off.	≖ Fuel tank is empty.		Fill tank.			
	¤ Fuel valve is closed.		Open valve.			
	m Main regulator float not engaging.		De-press the safety lever.			
	■ Control knob is set on "0"		Adjust control knob to "1".			
Fire extinguishes during use.	≖ Fuel tank is empty.		Fill tank.			
	¤ Insufficient draught.		Call your installer.			
Flame is excessively large, smoky and sooty.	≖ Fuel adjustment made too quickly.		 Return control knob to "1"; wait for normal combustion. (catalyser should glow red) Wait 5 to 15 minutes between each adjustment. 			
Stove burns noisily, extinguishes and relights itself.	¤ Burner contains excess fuel.	Ø	Adjust to lower setting. If problem persists call your installer.			
	¤ Insufficient fuel.		 - Check that the de-scaler, the float regulator filter and burner pot are cleaned. 			
Fire smokes. Soot build up noticed. Flame imbalance	¤ Insufficient air supply.		 - Increase fresh air supply (open door, window; add mak up air supply). 			
	≖ Downdraught or blockage in chimney.	V	 - Check Chimney for Soot build up. clean if necessary. - Ensure chimney height is sufficient and cap is not affected by any nearby obstructions. - Room is in negative pressure. Increase fresh air supply. Check draught with draught meter and adjust if not to requirements. See page 4. 			
	¤ Oil flow is too low on 1 setting.	Ø	Adjust low flow rate while control is set on "1", call your installer.			
	¤ Stove is not level. Flame imbalance.		Check level. Adjust if necessary.			
	¤ Catalyser not centered. Uneven fuel distribution resulting in secondary air shortage.		Center catalyser assembly			
	¤ Insufficient fuel.		Check that the de-scaler, the float regulator filter and burner pot are cleaned.			
	¤ The draught regulator is blocked in open position	Ø	Unlock the draught regulator Check the float regulator adjustment and refit, if necessary.			
Coke build up noticed.	¤ Excessive air supply.		Adjust draught.			

4. Spare parts

When ordering spare parts, please indicate: model n°, colour code, description of the part, code of the part. $Y = 174\ 05\ 05\ Y$ $J = 174\ 05\ 05\ J$ $K = 174\ 05\ 05\ K$ $C = 174\ 05\ 05\ C$

Example: Stove 174 05 05, base 352155 EF

N°	Code	Description	. Type	 Υ.	J	к	c	Qty
1	100917	Cam pin	12x20 M7	 Y	J	K	(C	01
2	104708	Plug		 Υ .	J	K	(C	01
3	905328	Complete burner	C4	 Υ .	J	K	(<u>C</u>	01
4 5	109552 109718	Cap		 Υ .	J I.	K		04
6	110105	Barometric damper		 Ϋ́	J	K		01
7	110404	Hinge pin	6x30	 Υ	J	K	<u>c</u>	02
8 9	119215 122204	Descaler Winged nut	diam 9	 Υ .	J	K		01
10	134258	Bushing						01
11	134601	Pin	2x20	 Υ.	J	K	(C	01
12 13	142301 142316	Adhesive rope Gasket	7.2	 Υ .	J	K		0,90 m 0,55 m
14	142316	Gasket						0,33 iii
15	149868	Knob		 Υ.	J	K	(C	
16 16	161026 161027	Touch-up paint						
16	161027	Touch-up paint						
17	162550	Descriptive plate		 Υ.	J	K	C	01
18 19	164205 165145	Oil-tight nut Float regulator		 Υ .	J	K	0	02 01
20	179617	Regulator shaft		 Y	J	K		01
21	181614	Ceramic rope	. d. 9,5	 Υ.	J	K	(C	2,18 m
22	181615	Ceramic rope						1,35 m
23 24	188818 189118	Glass	d. 10	 Ϋ́	J	K		01 01
25	199204	Regulator filter		 Υ .	J	K	C	01
26	198205	Catalyser ring Catalyser cover		 Υ .	J	K	0	01
27 28	194401 194403	Catalyser cover Catalyser body						01
30	905327	Basic burner		 Υ.	J	K	C	01
31	205389	Back panel		 Υ .	J	K	0	01
32 33	209916 222560	Protector						01 01
34	222611	Suppl. flue baffle		 Υ.	J	K	C	01
35	236708 94	Bracket						01
36 37	239715 60 259015	Carburettor support Fixing plate						01
38	260583 60	Heat shield		 Υ .	J	K	C	01
39 40	446302 300118 MJ	Shield						01
40	300118 MK	Leg						04
40	300118 EF	Leg		 Υ .				
40 41	300118 79 300483	Leg		 V	J			
42	301526 MJ	Door lock		 1 .	.	K		01 01
42	301526 MK	Door lock		 			C	01
42 42	301526 EF 301526 79	Door lock						
43	303301 EF	Bearing		 Υ	J	K	С	01
44	303726 MJ	Blanking plate		 		K		01
44 44	303726 MK 303726 EF	Blanking plate Blanking plate		 V			C	01
44	303726 79	Blanking plate						
45	303829 MJ	Flue collar						
45 45	303829 MK 303829 EF	Flue collar						
45	303829 79	Flue collar						
46	909401	Sliding door						
47 48	306279 EF 309898 MJ	Back wall						
48	309898 MK	Front plate		 			C	01
48	309898 EF	Front plate						
48 49	309898 79 309997 MJ	Front plate						
49	309997 MK	Main door		 			C	01
49	309997 EF	Main door						
49 50	309997 79 310724 MJ	Main door						
50	310724 MK	R. side panel		 			C	01
50	310724 EF	R side panel						
50 51	310724 79 310822 MJ	R. side panel						
51	310822 MK	L. side panel		 			C	01
51	310822 EF	L. side panel						
51 52	310822 79 312631	L. side panel						01 01
53	321903	Rim						01



54	327802	Clamp
55	327902 MJ	Ash-tray
55	327902 MK	Ash-tray
55	327902 EF	Ash-tray
55	327902 79	Ash-tray
56	352155 MJ	Top plate
56	352155 MK	Top plate
56	352155 EF	Top plate
56	352155 79	Top plate
57	808001 ED	Hand tool
58	982629	Feed line regulator-burner
59	982630	Vent-pipe
60	818301	Grate
61	307436	Fuel retainer
62	109722	Ceramic coal
63	242913	Ground vat
64	262218	Shield
65	124412	Strut
66	262606 60	Shield
67	202801	Support
68	445910	Bracket



FRANCO BELGE



Warranty certificate

Legal warranty

Our products are guaranteed for twelve months against any defect, flaw or imperfection. During this time, all parts judged defective by our Warranty control department may be replaced in our workshops. Incidental costs of transportation and packing payable by the buyer.

Some parts or components have a longer warranty period :

- Cast-iron shell of boiler: 3 years
- Steel shell of boiler: 3 years
- Removable or independent stainless steel hot water cylinder: 5 years
- Independent enamelled steel hot water cylinder: 3 years
- Incorporated circulating pump: 2 years.

Terms of the warranty

This warranty is only valid if:

- The unit has been installed and checked by a professional installer before operating,
- All installation and adjustment instructions listed in the

technical manual supplied with the unit have been followed, - All operation and maintenance instructions have been followed.

This warranty does not cover:

- Lamps, fuses, spark plugs, cast iron parts directly in contact with burning coal and wood, firebricks, flue baffles, glasses.
- Any damage resulting from the use of fuel not recommended in our instructions :
- Parts which are damaged by external causes such as unadapted chimneys, thunderstorms, damp, faulty pressure or fail in pressure, thermic anomalies, explosions, etc...
- Electrical parts which are deteriorated by any connection or use on a supply circuit with voltage within 10% of the indicted voltage (230 V in EU).

Material subject to modifications without prior notice. This manual does not engage the responsibility of FRANCO BELGE.

⊠ Name and address of the installer :
■ Telephone :
☐ Name and address of the customer :
Date of installation : / /
Model of the appliance : 174 05 05
Color: UY UJ UK UC
Serial number :
This certificate has to be completed and kept carefully.
In case of claims, send a copy of this to :

Les Fonderies Franco-Belges, rue Orphée Variscotte, 59660 MERVILLE, FRANCE.

Document n° 979-3 EN ~ 28/08/2000