

NXR5i

Installation and service manual

Fuel Oil/ Gas boilers

810 to 1460kW



Working towards
a cleaner future

Declaration of conformity CE

The appliance complies with the standard model described in declaration of compliance **CE**. It is manufactured and distributed pursuant to the requirements of european directives.

The original of the declaration of compliance is available from the manufacturer.

PROVISOIRE

Contents

1	Introduction	5
1.1	Symbols and abbreviations	5
1.2	General	5
1.2.1	Manufacturer's liability	5
1.2.2	Installer's liability	5
1.2.3	User's liability	5
1.3	Homologations	6
1.3.1	Certifications	6
1.3.2	Directive 97/23/EC	6
2	Safety instructions and recommendations	7
2.1	Safety instructions	7
2.1.1	Fire hazard	7
2.1.2	Risk of intoxication	7
2.1.3	Risk of being burnt	7
2.1.4	Risk of damage	7
2.2	Recommendations	7
3	Technical description	8
3.1	General description	8
3.2	Composition of the range	8
3.2.1	KSF-CE control panel	8
3.2.2	KSF-ISR control panel	8
3.3	Technical specifications	9
4	Installation	10
4.1	Regulations governing installation	10
4.1.1	In general	10
4.1.2	In particular for France	10
4.2	Package list	11
4.3	Mounting	11
4.3.1	Main dimensions	11
4.3.2	Data plate	12
4.3.3	Boiler location	13
4.3.4	Ventilation	14
4.4	Hydraulic connections	15
4.4.1	Dimensional information required	15
4.4.2	Hydraulic connection of the water circuit for domestic use	15
4.4.3	Hydraulic connection of the heating circuit	16
4.5	Filling the system	17
4.6	Sludge removal	17
4.7	Chimney connection	18
4.7.1	Flue size	18
4.7.2	Connection to the flue gas pipe	18
4.8	Fuel-oil or gas connections	19
4.9	Electrical connections	19
5	Commissioning	19
6	Switching off the boiler	19
6.1	Precautions required in the case of long boiler stops (one or more years)	19
6.2	Precautions required if the heating is stopped when there is a risk of freezing	19
7	Checking and maintenance	20
7.1	System maintenance	20

7.1.1	Water level	.20
7.1.2	Draining	.20
7.2	Maintenance	.20
7.2.1	Sweeping	.20
7.2.2	Chemical sweeping	.23
7.2.3	Maintenance of the burner	.24
7.3	Cleaning the casing material	.24
8	Spare parts - NXR5i	.25

PROVISOIRE

1 Introduction

1.1 Symbols and abbreviations



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.

DHW: Domestic hot water

1.2 General

We congratulate you for having chosen a quality product. We advise you warmly to read the instructions below in order to ensure the optimal operation of your burner. We are convinced that it will give you complete satisfaction and meet all your expectations.

- ▶ Keep these instructions in a safe place close to the appliance.
- ▶ In the interest of customers, Chappée are continuously endeavouring to make improvements in product quality. All the specifications stated in this document are therefore subject to change without notice.

1.2.1 Manufacturer's liability

The liability of Chappée as the manufacturer may not be invoked in the following cases:

- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.
- Failure to abide by the instructions on installing the appliance.

1.2.2 Installer's liability

The installer is responsible for the installation and initial start up of the appliance. The installer must respect the following instructions:

- ▶ Read and follow the instructions given in the manuals provided with the appliance.
- ▶ Carry out installation in compliance with the prevailing legislation and standards.
- ▶ Perform the initial start up and carry out any checks necessary.

When handing over the installation to the user, the installer will draw the user's particular attention to the following points:

- The safety of the installation.
- The functioning of the installation and the boiler.
- Periodic maintenance to be done.

1.2.3 User's liability

To ensure the optimum operation of your appliance, we strongly recommend that you abide by the following instructions:

- ▶ Read and follow the instructions given in the manuals provided with the appliance.
- ▶ Call on qualified professionals to:
 - Carry out installation in compliance with the prevailing legislation and standards.
 - Perform the initial start up.
 - Carry out work on the appliance and the installation.
 - To carry out inspections and maintenance required by a qualified professional.
- ▶ Get your installer to explain your installation to you.

1.3 Homologations

1.3.1 Certifications

CE identification no: 1312 AQ 954.

1.3.2 Directive 97/23/EC







Gas and oil boilers with a maximum operating temperature of 110°C and hot water tanks with a maximum operating pressure of 10 bar pertain to article 3.3 of the directive, and therefore, cannot be CE-marked to certify compliance with the directive 97/23 EC.

The boilers and hot water tanks are designed and manufactured in accordance with the sound engineering practice, as requested in article 3.3 of the directive 97/23/EC, it is certified by compliance with the directives 90/396/EC, 92/42/EC, 2006/95/EC and 2004/108/EC.



PROVISOIRE

2 Safety instructions and recommendations



2.1 Safety instructions

-  For a proper operating of the boiler, follow carefully the instructions.
-  Only qualified professionals are authorised to work on the appliance and the installation.
-  Incorrect use or unauthorised modifications to the installation or the equipment itself invalidate any right to claim.
-  Before any work, switch off the mains supply to the appliance.
-  Keep to the polarity shown on the terminals: phase (L), neutral (N) and earth $\frac{\perp}{\text{—}}$.
-  Keep children away from the boiler.

2.1.1 Fire hazard

-  It is forbidden to store inflammable products and materials in the boiler room or close to the boiler, even temporarily.
-  If you smell gas, do not use a naked flame, do not smoke, do not operate electrical contacts or switches (doorbell, lights, motor, lift, etc.).
- 1. Shut off the gas supply.
- 2. Open the windows.
- 3. Extinguish all flames.
- 4. Evacuate the premises.
- 5. Contact a qualified professional.
- 6. Inform the gas supplier.

2.1.2 Risk of intoxication

-  Do not obstruct the air inlets in the room (even partially).
-  If you smell flue gases:
 1. Switch the appliance off.
 2. Open the windows.
- 3. Evacuate the premises.
- 4. Contact a qualified professional.

2.1.3 Risk of being burnt

-  Depending on the settings of the appliance:
 - The temperature of the flue gas conduits may exceed 60°C.
 - The temperature of the radiators may reach 95°C.
 - The temperature of the domestic hot water may reach 65°C.

2.1.4 Risk of damage

-  Do not stock chloride or fluoride compounds close to the appliance.
-  Install the appliance in frost-free premises.
-  Do not neglect to service the appliance: Contact a qualified professional or take out a maintenance contract for the annual servicing of the appliance.

2.2 Recommendations

- ▶ Check regularly that the installation contains water and is pressurised.
- ▶ Keep the appliance accessible at all times.
- ▶ Avoid draining the installation.
- ▶ The appliance should be on Summer or Antrifreeze mode rather than switched off to guarantee the following functions:
 - Anti blocking of pumps
 - Frost protection
 - Protection against corrosion on domestic hot water tanks fitted with a titanium anode

3 Technical description

3.1 General description

The boilers of the NXR5i range are pressurised hot water boilers designed for connecting to a flue pipe which require a separate automatic fuel-oil or gas burner.

3.2 Composition of the range

3.2.1 KSF-CE control panel



3.2.2 KSF-ISR control panel



PROVISOIRE

3.3 Technical specifications

Conditions of use:

Maximum operating pressure: 6 bar


Maximum operating temperature: 100 °C

Boiler thermostat setting: 30 to 90°C

Safety thermostat setting: 110 °C

Boiler		NXR5i -14	NXR5i -15	NXR5i -16	NXR5i -17	NXR5i -18	NXR5i -19	NXR5i -20	NXR5i -21	NXR5i -22	NXR5i -23	NXR5i -24	NXR5i -25	
Useful output	kW	754	812	870	928	986	1044	1102	1160	1218	1276	1334	1400	
		to 812	to 870	to 928	to 986	to 1044	to 1102	to 1160	to 1218	to 1276	to 1334	to 1400	to 1450	
Power input	kW	821	897	954	1022	1077	1146	1198	1265	1333	1393	1463	1532	
		to 890	to 967	to 1024	to 1093	to 1147	to 1216	to 1268	to 1336	to 1404	to 1464	to 1544	to 1595	
Number of sections		14	15	16	17	18	19	20	21	22	23	24	25	
Water content		l	655	693	731	769	807	845	905	943	981	1019	1057	1095
Water resistance (1)	Δ T = 10K	mbar	67.2	77.6	26.2	30.2	35.8	41.4	48.0	53.6	59.2	64.8	71.6	78.4
	Δ T = 15K		30	34.7	11.7	13.5	14.0	18.5	21.5	24	26.5	29	32	35
	Δ T = 20K		16.8	19.4	6.5	7.6	9.0	10.4	12.0	13.4	14.8	16.2	17.9	19.6
Pressure in the furnace for nozzle pressure = 0 (4)		mbar	2.3	2.4	2.5	2.6	2.7	2.85	3	3.1	3.2	3.3	3.4	3.5
Flue gas temperature - Ambient temperature (1) (3)		K	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	<190	
Mass flue gas flow rate (1) (2)	Fuel oil	Kg/h	1380	1480	1580	1670	1770	1870	1970	2070	2170	2260	2360	2460
	Gas		1450	1550	1650	1760	1860	1960	2070	2170	2270	2380	2480	2580
Combustion chamber	Inscribed diameter	mm	614	614	614	614	614	614	614	614	614	614	614	
	Equivalent diameter	mm	694	694	694	694	694	694	694	694	694	694	694	
	Depth	mm	1483	1594	1705	1816	1927	2038	2189	2300	2411	2522	2633	2744
	Volume	m ³	0.57	0.61	0.65	0.70	0.74	0.78	0.84	0.88	0.92	0.96	1.00	1.05
Maintenance consumption*	Δ T = 30K	%	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	
Weight (empty)		kg	3171	3364	3561	3756	3955	4124	4343	4538	4734	4930	5107	5297

*Maintenance consumption: total heat emission when the burner is off as a percentage of the nominal input power when the difference between the mean boiler temperature and the room temperature is 30 K - in accordance with DIN 4702 - EN 303.


- (1) Nominal operation (top boiler power)
- (2) CO₂ = 13.1 to 13.5% with fuel oil and 9.5% with natural gas.
- (3) Boiler temperature: 80 °C
Ambient temperature: 20 °C
- (4)  In order for the boiler to operate correctly, it is imperative to respect the draught at the nozzle.

PROVISOIRE

4 Installation

4.1 Regulations governing installation

4.1.1 In general

 Installation must be carried out in accordance with the prevailing regulations, the codes of practice and the recommendations in these instructions.

4.1.2 In particular for France

Heating installations must be designed and constructed in such a way as to prevent the return of water from the heating circuit and products put into it into the drinking water network located upstream. The installation must not be in direct relation with the drinking water network (Article 16-7 of the departmental health Directive).

When these installations are fitted with a filling system connected to the drinking water network, they comprise a CB disconnecter (disconnecter for zones with non-controllable pressure differences) which satisfy the functional requirements of the NF P 43-011 standard.

■ Residential buildings

Statutory terms and conditions of installation and maintenance:

The installation and maintenance of the appliance must be carried out by a qualified professional in compliance with the statutory texts of the codes of conduct in force, particularly:

- Order of 27 April 2009 amending the Order of 2 August 1977 Technical and safety rules applicable to combustible gas and liquefied hydrocarbon installations situated inside residential buildings and their annexes.
- NF P 45-204 standards Gas installation, (formerly DTU 61-1, gas installations: April 1982, addendum no 1: July 1984).

- Local Sanitary Regulations

For appliances connected to the electricity network:

- NF C 15-100 standards Low voltage electrical installation - Rules..

■ Establishments open to the public

Statutory terms and conditions of installation:

The installation and maintenance of the appliance must be carried out in compliance with the statutory texts and rules of the codes of conduct in force, particularly:

- Safety regulations against fire and panic in establishments open to the public:

a. General regulations

For all appliances:

- Articles GZ - Installations operating on combustible gases and liquefied hydrocarbons.

Then, depending on use:

- Articles CH-Heating, ventilation, refrigeration, air conditioning and production of steam and domestic hot water.

- b. Instructions specific to each type of establishment open to the public (hospitals, stores, etc.).

■ Certificate of compliance (only concerns NXR5i boilers fitted with a gas burner)

In application of Article 25 of the Order of 27 April 2009 amending the Order of 2 August 1977 amended and Article 1 of the amended Order of 05/02/1999, the installer is required to draw up certificates of conformity approved by the Ministers responsible for construction and gas safety:

- Different forms (forms 1, 2 or 3) for a new gas installation
- Model 4 in particular after replacing a furnace with a new one.

Boiler	NXR5i -14	NXR5i -15	NXR5i -16	NXR5i -17	NXR5i -18	NXR5i -19	NXR5i -20	NXR5i -21	NXR5i -22	NXR5i -23	NXR5i -24	NXR5i -25
A (mm)	2538	2649	2760	2871	3017	3128	3279	3390	3501	3612	3723	3834
B (mm)	1744	1744	1966	1966	2188	2188	2450	2450	2672	2672	2894	2894
C (mm)	1488	1488	1488	1488	1504	1504	1504	1504	1504	1504	1504	1504
D (mm)	217	188	189	210	236	257	208	209	230	231	252	253
Ø E (weld) (mm)	139.7	139.7	139.7	139.7	159	159	159	159	159	159	159	159
Ø F (mm)	400	400	400	400	400	400	400	*	*	*	*	*
G** (mm)	-	150	150	370	370	370	650	650	650	980	980	980
H (mm)	-2	-31	-30	-9	-8	13	-36	-35	-14	-13	8	9
K*** (mm)	10	-19	-18	3	4	25	-24	-23	-2	-1	20	21
L (mm)	2105	2245	2355	2445	2555	2645	2845	2955	3045	3155	3245	3355
M (mm)	259	324	269	321	265	299	269	324	269	324	249	303
T (mm)	1483	1594	1705	1816	1927	2038	2189	2300	2411	2522	2633	2744
U (mm)	2132.5	2243.5	2354.5	2465.5	2576.5	2687.5	2838.5	2949.5	3060.5	3171.5	3282.5	3393.5

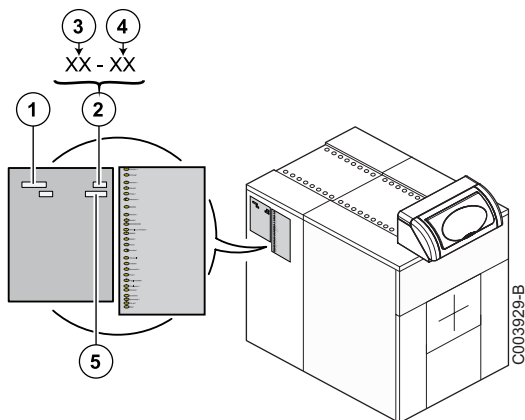
- * Plain plate, requires cutting. Maximum cut-out 500 x 700.
- ** G = Length required for clearing the water distributing tube.
- *** Dimension representing the end of the 100 mm long chimney connection.

i with models NXR5i-21, NXR5i-22, NXR5i-23,, NXR5i-24 and NXR5i-25, a plain plate which must be cut out is supplied without the 100 mm chimney connection.

4.3.2 Data plate

The rating plate fixed on the side of the boiler during installation is used to identify the boiler correctly and also provides the main specifications of the boiler.

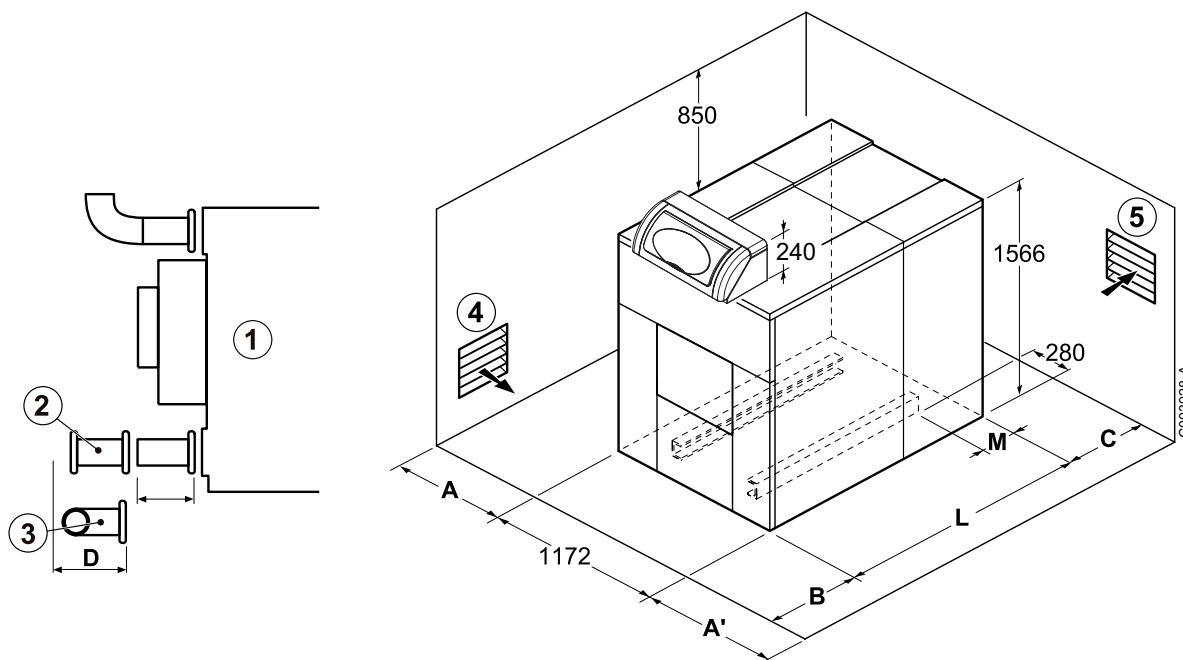
- ① Boiler type
- ② Manufacturing date
- ③ Year of manufacture
- ④ Week of manufacture
- ⑤ Serial no. of the appliance



4.3.3 Boiler location

For the assembly and because of their design, NXR5i boilers require no special base. Their closed furnace system means that the floor need not have refractory properties. All you have to ensure is that the floor can support the weight of the boiler when it is fitted for operation.

If the boiler location is not determined precisely, leave enough space around the boiler to facilitate monitoring and maintenance operations.



- ① Boiler body *
- ② Straight connection (not supplied) *
* 1) In order to facilitate subsequent work on the boiler (replacing the water distributing tube etc.) use a flanged connection from the boiler to the system, making sure you comply with minimum clearance dimension **D**.
- ③ Angled connection (not supplied)
- ④ Air inlet
- ⑤ Air outlet

If **A = 1.2 m** (door opening side), **A' = 0.5 m**

If **A = 0.5 m**, **A' = 1.2 m** (door opening side): adapt the dimensions on the basis of the dimensions of the burner when the door is open.

B = 1.5 m: adapt the dimensions on the basis of the dimensions of the burner.

Boiler	NXR5i -14	NXR5i -15	NXR5i -16	NXR5i -17	NXR5i -18	NXR5i -19	NXR5i -20	NXR5i -21	NXR5i -22	NXR5i -23	NXR5i -24	NXR5i -25
L	2105	2245	2355	2445	2555	2645	2845	2955	3045	3155	3245	3355
M	259	324	269	321	265	299	269	324	269	324	249	303
C min.	300	436	436	656	656	656	936	936	936	1266	1266	1266
D min.	-	136	136	356	356	356	636	636	636	966	966	966

4.3.4 Ventilation

The location of air inlets in relation to the high ventilation openings shall ensure that the air is renewed in the entire volume of the boiler room.

Position the air inlets in relation to the high ventilation vents in order that the air is refreshed throughout the boiler room.

 **It is in any case imperative to conform to the local regulations in force.**

 **Do not obstruct the air inlets in the room (even partially).**

Upper and lower air vents compulsory:


Top ventilation:

- Cross section equal to half the total cross section of the flue gas pipes with a minimum of 2.5 dm².

Bottom ventilation:

- Direct air inlet: $S \text{ (dm}^2) \geq 0,86P \frac{P}{20}$

P = Installed power in kW

 **In order to avoid damage to the boiler, it is necessary to prevent the contamination of combustion air by chlorine and/or fluoride compounds, which are particularly corrosive.**

These compounds are present, for example, in aerosol sprays, paints, solvents, cleaning products, washing products, detergents, glues, snow clearing salts, etc.

Therefore:

- Do not pull in air evacuated from premises using such products: hairdressing salons, dry cleaners, industrial premises (solvents), premises containing refrigeration systems (risk of refrigerant leakage), etc.
- Do not stock such products close to the boilers.

If the boiler and/or peripheral equipment are corroded by such chloride or fluoride compounds, the contractual guarantee cannot be applied.

France

The minimum cross sections and the emplacement of the fresh air inlet and the air discharge are governed by the order of 21/03/1968 amended by the orders of 26/02/1974 and 03/03/1976.

■ Generator installed in a building for collective use (installations less than 70 kW)

- ▶ The fresh air inlet must:
 - Come out in the lower section of the premises,
 - Have a free minimum cross section calculated on the basis of 0.03 dm² per kilowatt installed output and at least equal to 2.5 dm².
- ▶ The air discharge must:
 - Be located in the upper section of the premises,
 - Rise above the roof (unless using an equivalent system which does not cause a nuisance to neighbours),
 - Have a free cross section (corresponding to 2/3 of that of the air inlet and at least equal to 2.5 dm²).

■ Generator installed in a building for individual use

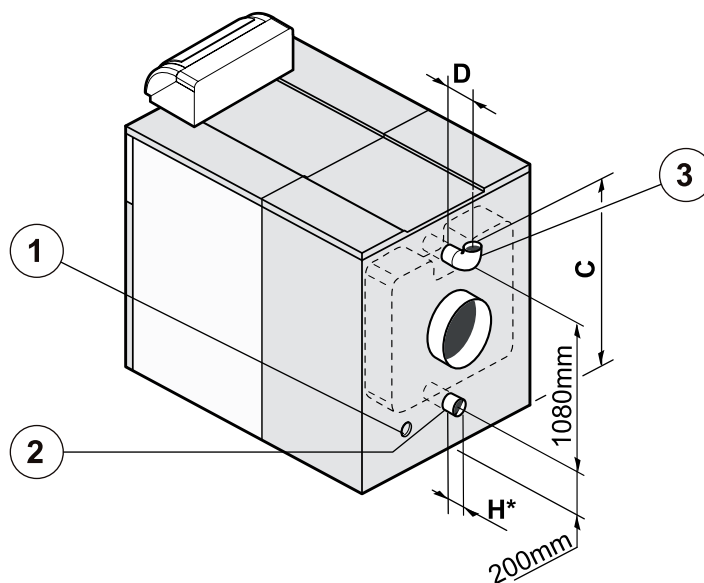
- ▶ An adequate supply of fresh air must be provided as close as possible to the appliances. Its cross section must be at least 0.5 dm².
- ▶ In the upper section of the premises, an air outlet must ensure effective ventilation.

■ Establishments open to the public

- ▶ New establishment: Refer to the order of 25/06/1980 (installations of more than 20 kW and less than or equal to 70 kW).
- ▶ Existing establishment: Refer to the order of 25/06/1980 (installations less than 70 kW).

4.4 Hydraulic connections

4.4.1 Dimensional information required




- ① Draining outlet 3/4"
- ② Heating return:
 - 14 to 17 sections: 139.7 - 5"
 - 18 to 25 sections: 159 - 6" weld.
- ③ Heating flow:
 - 14 to 17 sections: 139.7 - 5"
 - 18 to 25 sections: 159 - 6" weld.

* dimension without connection (see figure on chapter Boiler location, straight or angled connection).

Boiler	NXR5i -14	NXR5i -15	NXR5i -16	NXR5i -17	NXR5i -18	NXR5i -19	NXR5i -20	NXR5i -21	NXR5i -22	NXR5i -23	NXR5i -24	NXR5i -25
C (mm)	1488	1488	1488	1488	1504	1504	1504	1504	1504	1504	1504	1504
D (mm)	217	188	189	210	236	257	208	209	230	231	252	253
H (mm)	-2	-31	-30	-9	-8	13	-36	-35	-14	-13	8	9

4.4.2 Hydraulic connection of the water circuit for domestic use

 See: Domestic hot water calorifier instructions.

4.4.3 Hydraulic connection of the heating circuit

■ Water flow in the boiler

The water flow in the boiler when the burner is operating must correspond with the following formulae:

- Nominal water flow $Q_n = 0.86 P_n / 20$.
- Minimum flow $Q_{min} = 0.86 P_n / 45$ (this flow also corresponds with the minimum recycle flow in the boiler).
- Maximum water flow $Q_{max} = 0.86 P_n / 5$.

Q_n = flow in m^3/h

P_n = Nominal output (full boiler output) in kW.

i Connect the flow controller to the terminal blocks **UV** in the control panel KSF CE.

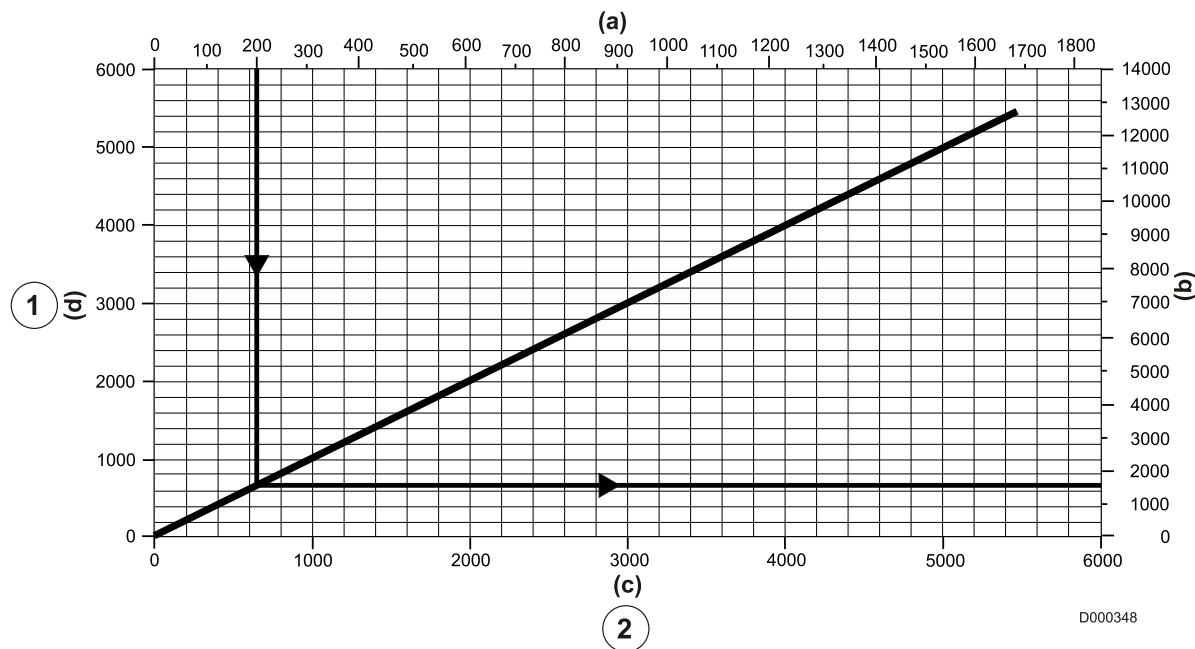
i Connect the flow switch to **Q** between terminals **SK1** and **SK2** on the KSF ISR control panel.

■ Operation in cascade

After stopping the burner:

- Timeout required before the order to close a 2 way valve: 3 min.
- Switch a possible shunt pump (located between the boiler and a butterfly valve) off via the end of run contact of the butterfly valve.

■ Minimum safety valve flowrate as a function of maximum boiler nominal output



① Minimum relieving capacity

② Maximum gross boiler output

Unit (a) = kW

(b) = lb/h

(c) = MBtu/h

(d) = Kg/h

■ Operation with 2-stage burner

- The water temperature in the boiler is maintained at 50°C or more; The first stage must be set to a minimum of 30% of the nominal stage.
- Operation at modulated low temperature (minimum outlet temperature: 40°C); The first stage must be set to a minimum of 50% of the nominal stage.

Refer to the installation and service manual for the KSF CE control panel.

■ Operation with modulating burner

- The water temperature in the boiler is maintained at 50°C or more; The burner can modulate down to 30% of the nominal stage.
- Operation at modulated low temperature (minimum outlet temperature: 40°C); The burner can modulate down to 50% of the nominal stage.

Refer to the installation and service manual for the KSF ISR control panel.

Example:

Maximum boiler nominal output is 800 kW.

Minimum safety valve flowrate must be 2600 Kg/h.

There must be no total or partial closing mechanism between the boiler and the safety valves (France: DTU - 65.11, § 4.22 - NF P 52-203).

4.5 Filling the system

Filling shall be performed with a low flow rate from a low point in the boiler room in order to ensure that all the air in the boiler is bled from the high point of the system.

All the pumps must be stopped before filling (included shunt pump(s)).

⚠ VERY IMPORTANT: Instructions for starting up the boiler for the first time after the system is fully or partly drained: If all the air is not bled naturally to an expansion vessel which opens out onto the air, the system must include manual bleeder valves, in addition to automatic bleeder valves with the capability to bleed the system by themselves when it is operating, the manual bleeder valves are used to bleed all the high points of the system and to make sure that the filled system is free of air before the burner is turned on.

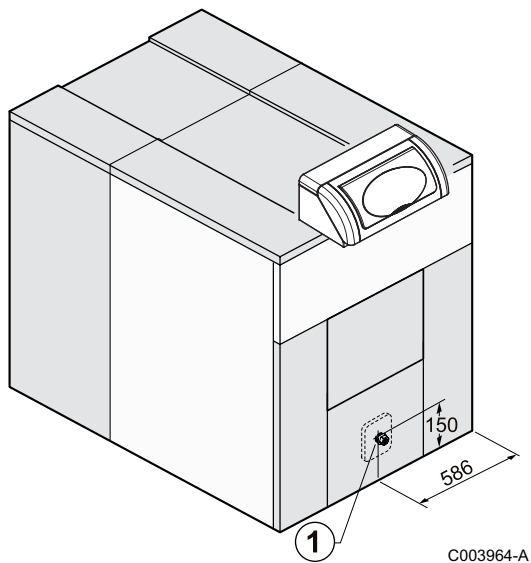
⚠ Do not add cold water suddenly into the boiler when it is hot.

4.6 Sludge removal

A tapped Ø 2" hole with a plug has been provided on the bottom of the front of the boiler.. Fit a 1/4 turn valve (not supplied) on the opening to remove the sludge.

Sludge removal leads to the draining of large quantities of water, so remember to refill the system after the operation.

i never replace a boiler in an existing system without carefully rinsing the system first. Install a sludge decanting pot on the return pipe, very close to the boiler.



① 2" tapped sludge removal hole

4.7 Chimney connection

The high-performance features of modern boilers and their use in specific conditions as a result of the advance in burner technology (e.g. first-stage or low modulation range operation) lead to very low flue gas temperatures (160°C).

For this reason:

- Use flue gas pipes designed to enable the flow of condensates which may result from such operating modes in order to prevent damage to the chimney.
- Install a draining tee at the bottom of the chimney.

The use of a draught moderator is recommended as well.

4.7.1 Flue size

Refer to applicable regulations while determining the size of the flue.

Please note that NXR5i boilers have pressurised and tight furnaces and that the pressure at the nozzle must not exceed 0 mbar, unless special sealing precautions have been taken, for instance in order to connect a static condenser/regenerator.

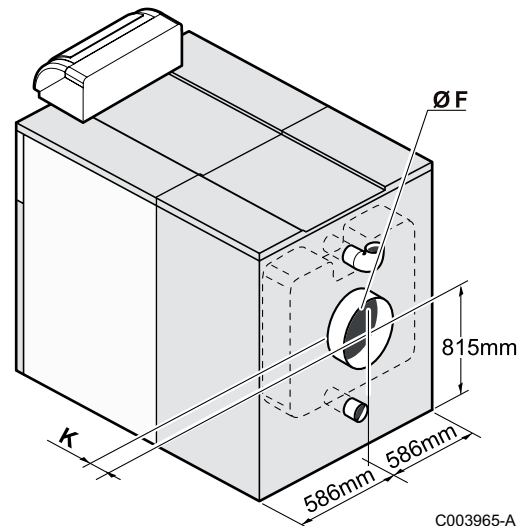
4.7.2 Connection to the flue gas pipe

The connection shall be removable, and offer minimum load losses, i.e. it must be as short as possible with no sudden change in section.

Its diameter shall always be at least equal to that of the boiler outlet, i.e.: $\varnothing 400$ mm.

Boilers with 21 to 25 sections are supplied with a plain plate. The maximum cut-out dimensions are 500 x 700 mm.

Fit a measuring point ($\varnothing 10$ mm hole) on the flue, in order to adjust the burner (combustion check).




Boiler	NXR5i-14	NXR5i-15	NXR5i-16	NXR5i-17	NXR5i-18	NXR5i-19	NXR5i-20	NXR5i-21	NXR5i-22	NXR5i-23	NXR5i-24	NXR5i-25	
$\varnothing F$	400	400	400	400	400	400	400	Plain plate					
K	10	-19	-18	3	4	25	-24	-23*	-2*	-1*	20*	21*	

*Dimension representing the end of the 100 mm long chimney connection.

Nota: with models NXR5i-21, NXR5i-22, NXR5i-23,, NXR5i-24 and NXR5i-25, a plain plate which must be cut out is supplied without the 100 mm chimney connection.

PROVISOIRE

4.8 Fuel-oil or gas connections

 Refer to the instructions supplied with the burner.

4.9 Electrical connections

 Refer to the connection instructions supplied with the control panel..


5 Commissioning

 See:

- Control panel instructions
- Burner instructions
- Domestic hot water calorifier instructions

6 Switching off the boiler

- ▶ Set the On/Off switch to **O**.

 See: Control panel instructions

- ▶ Cut the gas supply to the boiler (if present).

6.1 Precautions required in the case of long boiler stops (one or more years)

- The boiler and the chimney must be swept carefully.
- Close all the doors of the boiler to prevent air from circulating inside the boiler.

We advise removing the pipe which connects the boiler to the chimney and to close off the nozzle with a cover.

6.2 Precautions required if the heating is stopped when there is a risk of freezing

We recommend the use of a correctly dosed antifreeze agent to prevent to the heating circuit from freezing.

If this cannot be done, drain the system completely.

7 Checking and maintenance

7.1 System maintenance

7.1.1 Water level

Regularly check the level of water in the system and top up if required, taking care that cold water is not added suddenly into the boiler when it is hot.

This operation should be required only a few times in each heating season, with very low quantities of water; otherwise, look for the leak and repair it.

7.1.2 Draining

We advise you against draining the system unless it is absolutely necessary.

For example: Several months' absence with the risk of ice in the building.

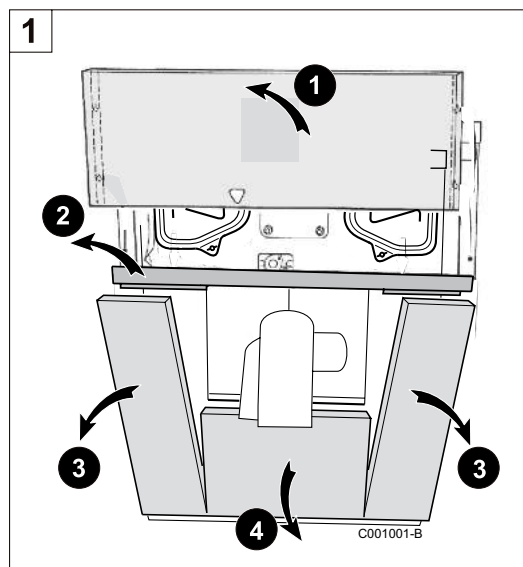
7.2 Maintenance

⚠ The operations described below shall only be performed with the boiler and power supply off.

⚠ The boiler will only operate efficiently if the exchange surfaces are kept clean.

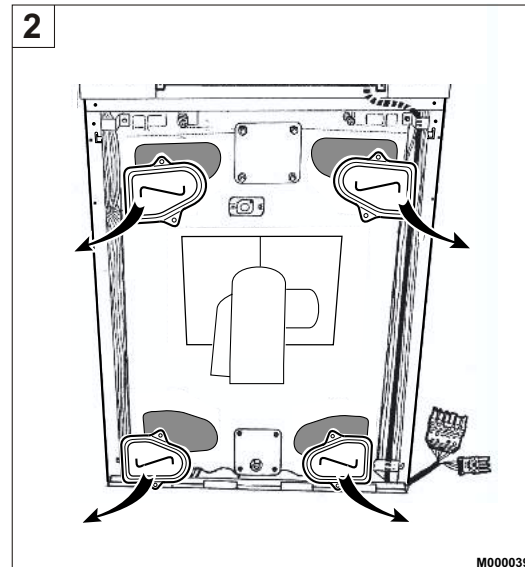
The boiler should be cleaned as soon as required and as the chimney, **at least once a year or more**, depending upon applicable regulations and specific needs.

7.2.1 Sweeping



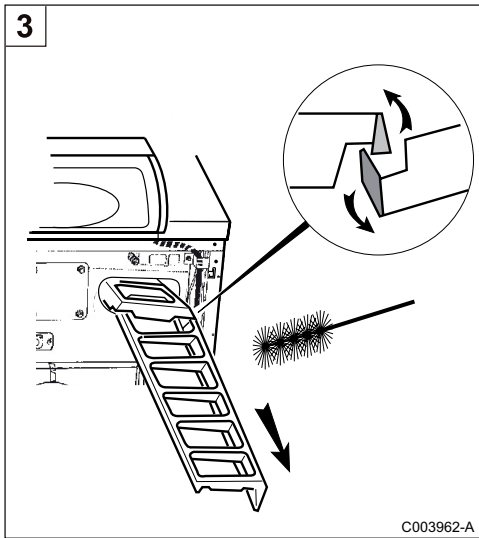
Step 1:

- ▶ Cut the power supply to the boiler.
- ➊ Remove the upper front panel.
- ➋ Remove the front upper holding cross-bar.
- ➌ Unhook the lower left and right front panels.
- ➍ Remove the lower front panel.



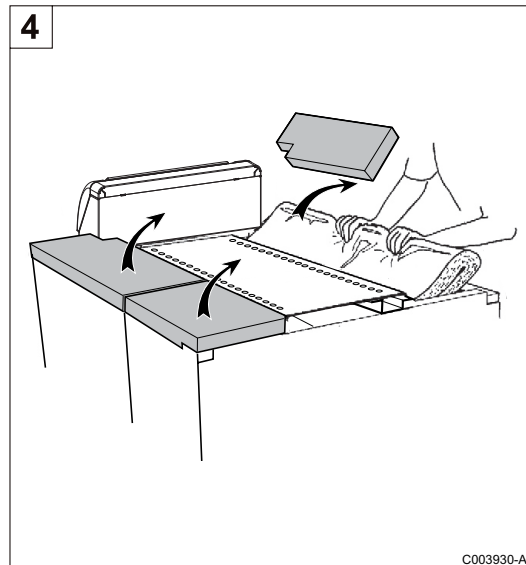
Step 2:

- ▶ Unfasten the wing nuts and remove the 4 sweeping doors.



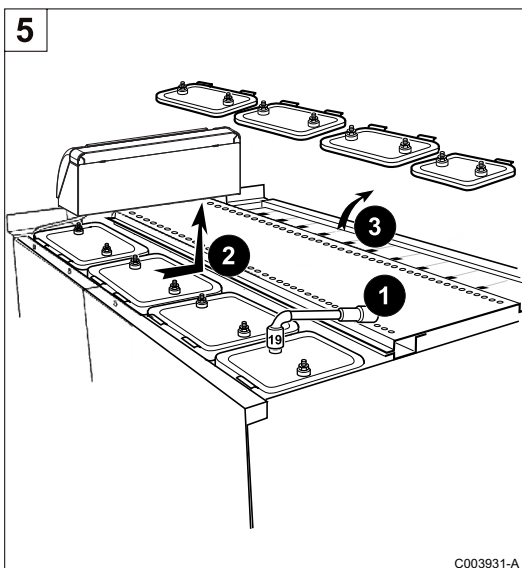
Step 3:

- ▶ Remove the baffle plates from the upper flue ways.
- ▶ Carefully sweep the flue ways with the brush supplied for that purpose.
- ▶ Brush the baffle plates as well.
- ▶ If possible, use a vacuum cleaner.



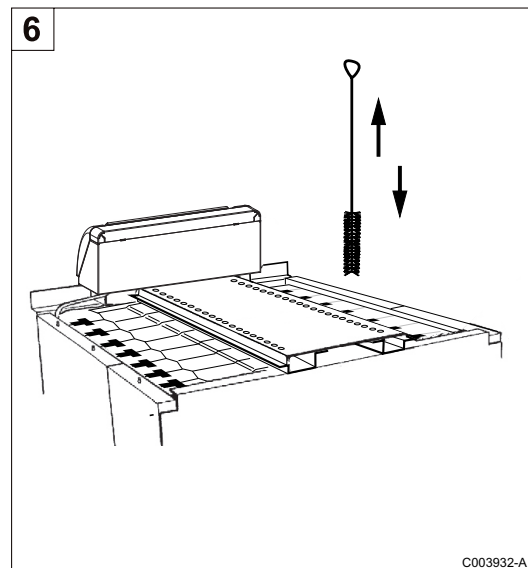
Step 4:

- ▶ Remove the left and right-hand casing covers.
- ▶ Remove the top insulating material.



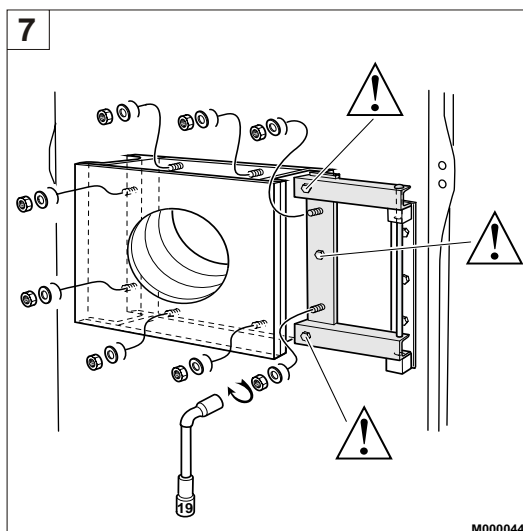
Step 5:

- ❶ Unfasten the nuts up to the stop.
- ❷ Push in the handles of the sweeping covers.
- ❸ Remove the sweeping covers.



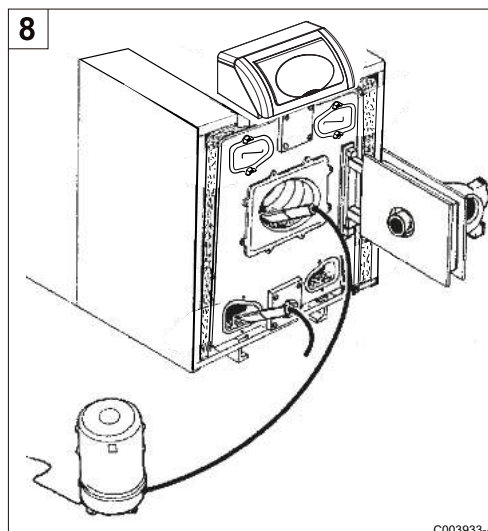
Step 6:

- ▶ Brush the vertical plates.
 - ▶ Put back the sweeping covers, insulating material and casing covers by reversing the procedure above.
- i** chemical sweeping is recommended for such boilers. See chapter "Chemical sweeping".
- ▶ Put the baffle plates back in place. Interlock them with each other while fitting them into the flue ways.
 - ▶ Close the upper sweeping doors.



Step 7:

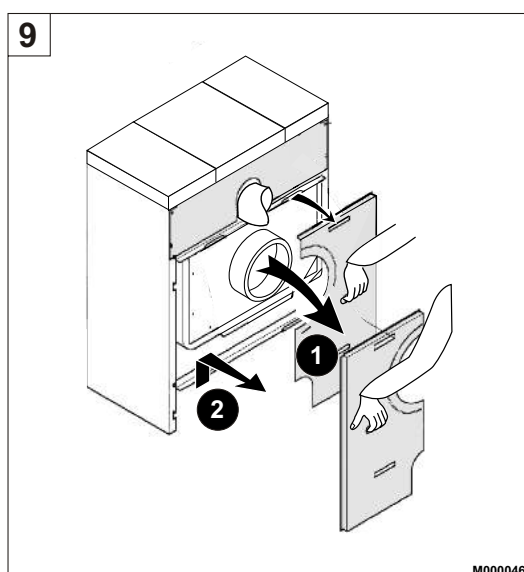
- ▶ Unscrew the 8 closing nuts and open the furnace door.
- ⚠ These 3 screws must not be unfastened in any event.**



Step 8:

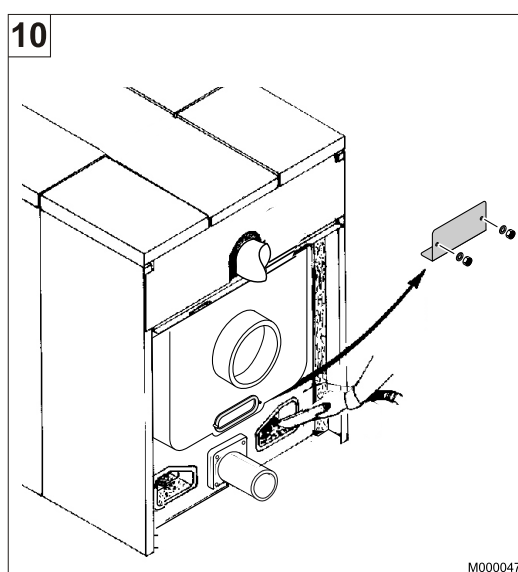
- ▶ Brush out the inside of the furnace.
 - ▶ Clean the soot accumulated in the furnace and lower flue ways with a vacuum cleaner.
 - ▶ Close the lower sweeping doors.
 - ▶ Put back the front casing panels by reversing the removal procedure.
- i See chapter "Chemical sweeping".**

PROVISOIRE



Step 9:

- 1** Remove the lower rear panels.
- 2** Remove the lower rear crosspiece.
- ▶ Remove the lower insulating material on the rear.



Step 10:

- ▶ Unfasten the wing nuts and remove the lower left and right-hand sweeping doors.
- ▶ Remove any soot deposit with a scraper or a vacuum cleaner.
- ▶ Open the lower sweeping cover of the flue gas box (2 H 10 nuts + Ø 10 washers).
- ▶ Remove the soot.
- ▶ Put back the sweeping cover and doors.
- ▶ Put back the lower insulating material, the crosspiece and panels by reversing the removal procedure.

7.2.2 Chemical sweeping

■ General principle

Boilers are traditionally swept mechanically. There are now chemical sweeping methods which facilitate this maintenance work.

A chemical reagent is applied to the boiler's heating surfaces.

After application, the reaction is completed by igniting the burner. The initial deposits are neutralised and pyrolysed. The remaining pulverent residues are easy to remove by sweeping or vacuum cleaning.

■ The products

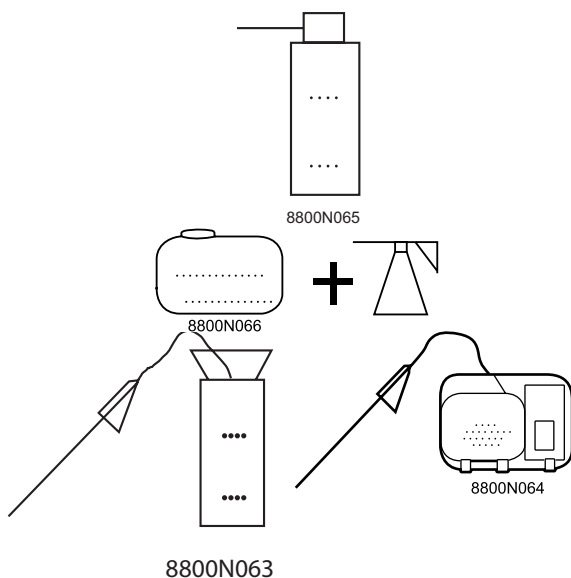
The product must be suitable for boilers with a cast iron body. Various manufacturers offer products in the form of a concentrated liquid or aerosol.

The aerosols are packaged in 0.5 to 1 l spray cans for treating domestic boilers. Refer to the instructions supplied with the product.

The liquid products are available in 1 to 50 l containers. These concentrated liquids are diluted before application with a spray.

Sprays exist in various forms suitable for their intended use:

- Low capacity (2 or 3 l) spray with built-in reservoir for small boilers and moderate frequency. Manual pressurisation of the reservoir.
- 5 l spray with separate reservoir, nozzle and connecting tube. The nozzles enable easy application at the back of the combustion chamber. Manual pressurisation of the reservoir.
- Motor-assisted pressurisation spray with reservoir, nozzle and connecting tube. These sprays are intended for intensive use.



■ Operational mode

The operating mode mentioned corresponds to standard user situations. Refer to the manufacturer's instructions for specific advice on the product used.

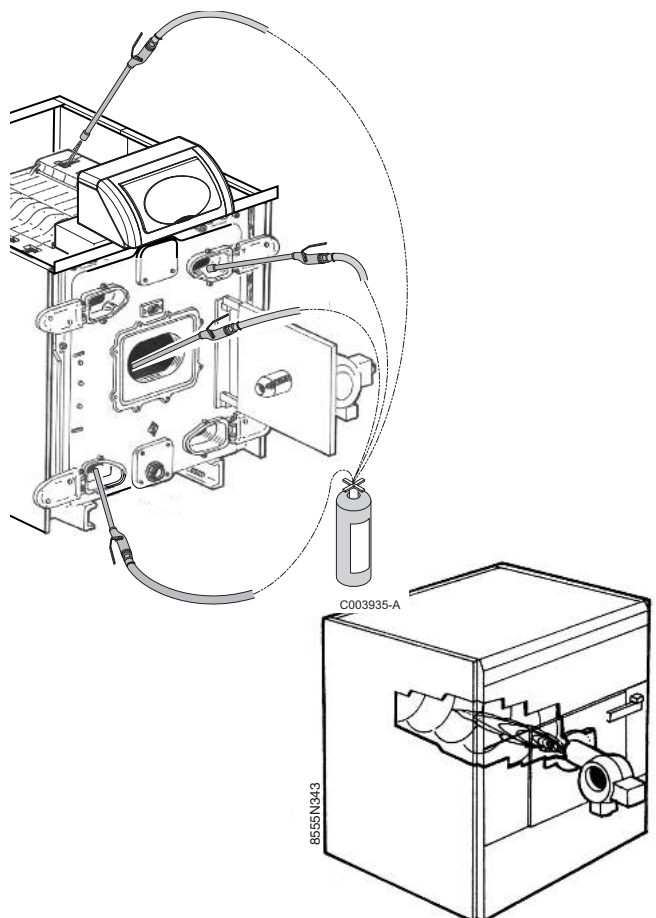
Application:

- Depending on the product, the boiler must be cold or heated. Refer to the instructions supplied with the product.
- Direct application to the heating surfaces with aerosol sprays.

- The concentrates are diluted in the proportions 1/5 to 1/20 ((depending on the product and the condition of the boiler).
- Application with the spray is done in the upper part of the boiler and on the walls of the combustion chamber. Surfaces are dampened but not washed. It is not necessary to use the spray to get between the heating surfaces.
- A volume of one litre of solution is generally used for 1 m² of heating surface (domestic boiler), i.e. 0.05 to 0.2 l of concentrate.

■ Ignition

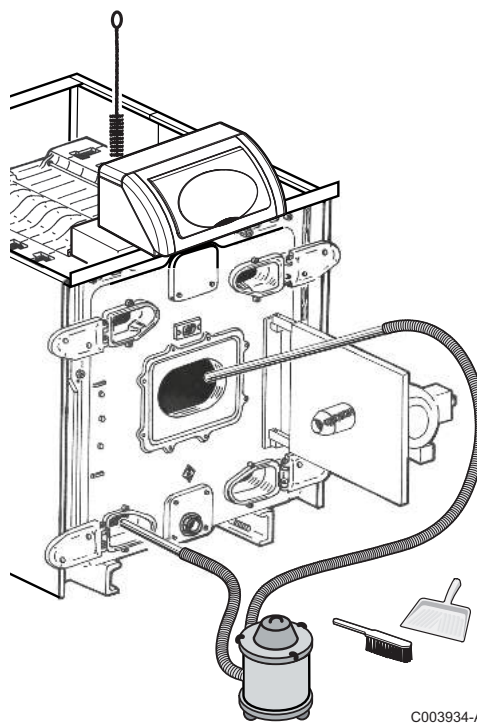
The burner is ignited after allowing the product time to penetrate for 2 to 5 min. Refer to the instructions supplied with the product.



PROVISOIRE

■ Cleaning

- Remove the baffle plates.
- Light sweeping will remove the pulverent residues remaining after combustion.
- The remaining pulverent residues are easy to remove by sweeping or vacuum cleaning.
For certain products, brief application after cleaning has a preventive effect, limiting deposits on the heating surfaces.
- Replace the baffle plates.
- Close the door of the combustion chamber.
- Service the burner.
- Replace the front panel.



7.2.3 Maintenance of the burner

 Refer to the instructions supplied with the burner.

7.3 Cleaning the casing material

Use a soapy solution and a sponge only.

Rinse with clean water and dry with chamois leather or a soft cloth.

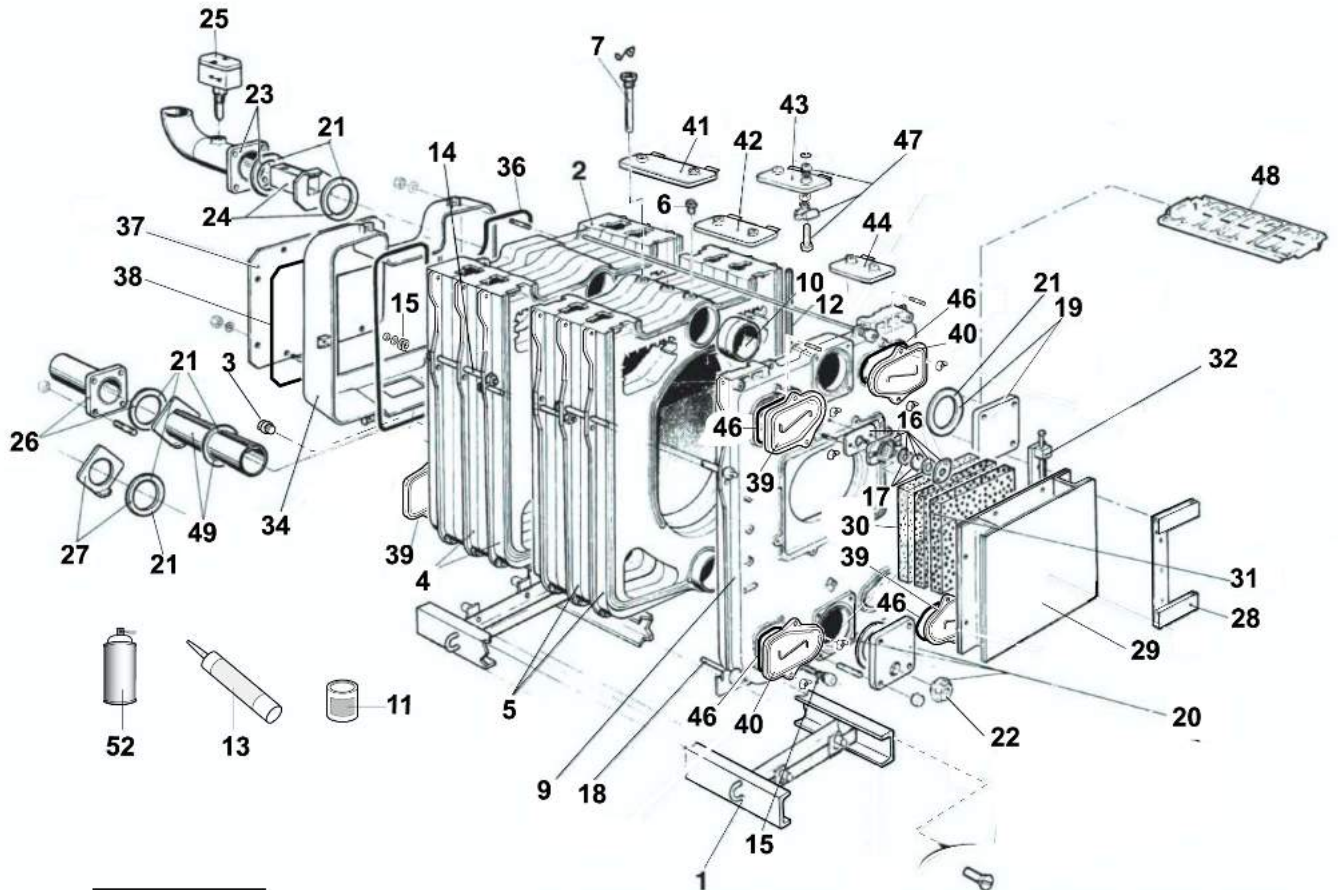
8 Spare parts - NXR5i



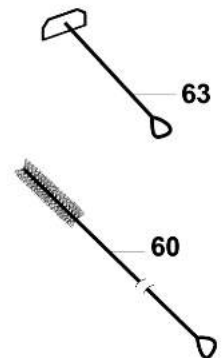
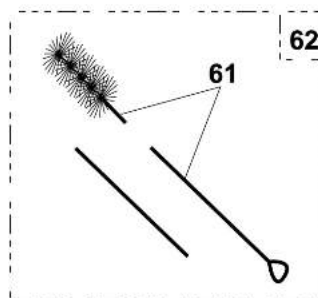
To order a spare part, quote the reference number next to the part required.

300029104-002-01

Boiler body + Miscellaneous



PROVISOIRE



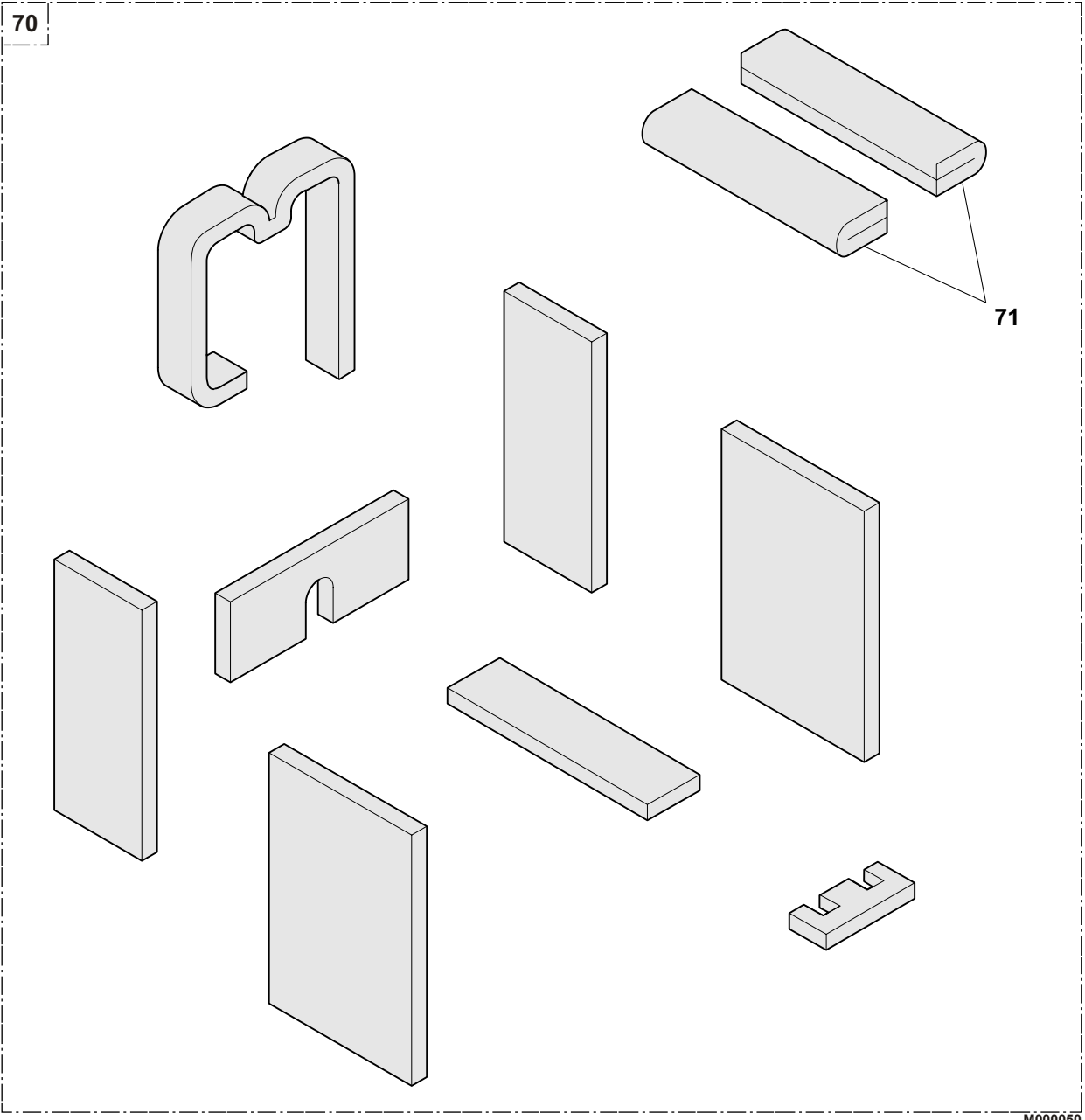
C001002

Interpart

Brooks House - Coventry Road - WARWICK - CV34 4LL - ☎ 08706 000454 📠 08706 000545

Insulation

70

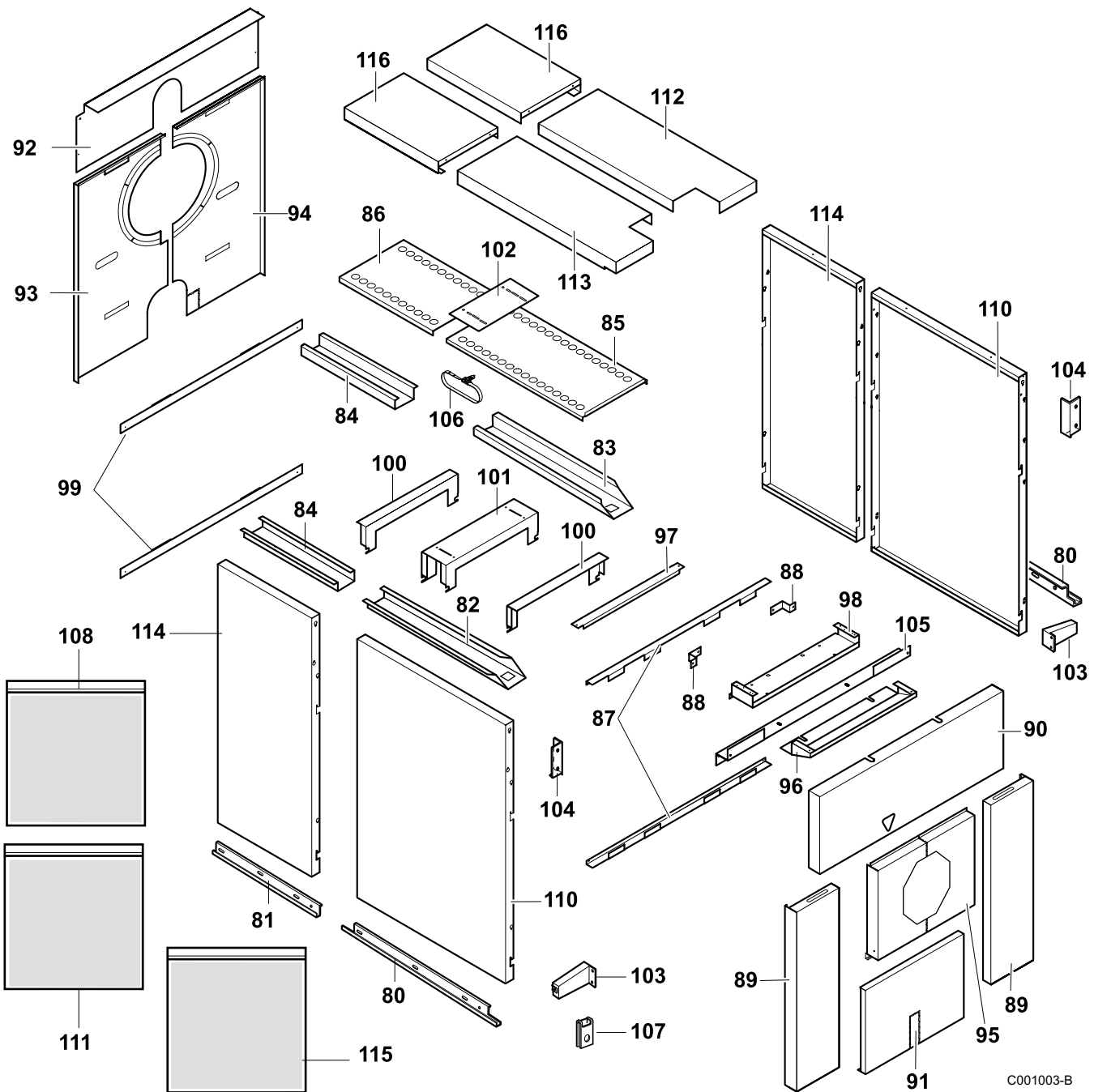


71

M000050

PROVISOIRE


Casing



PROVISOIRE

C001003-B

Control panels

 Refer to the Spare Parts list in the panel instructions.

KSF-ISR control panel



KSF-CE control panel



PROVISOIRE

Ref.	Code no.	Description
		Boiler body + Accessories
		Base frame
1	8259-8957	Complete frame 14,15 sections
1	8259-8958	Complete frame 16,17 sections
1	8259-8959	Complete frame 18,19 sections
1	8259-8960	Complete frame 20,21 sections
1	8259-8961	Complete frame 22,23 sections
1	8259-8962	Complete frame 24,25 sections
		Boiler body + Accessories
2	8555-5505	Complete rear section
3	9495-0140	plug no. 290 3/4"
4	8259-8948	Normal intermediate section
5	8259-8949	Special intermediate section
6	9495-0110	plug no. 290 1/2"
7	8500-0027	1/2" sensor tube
9	8259-8950	Complete front section
10	8006-0212	Painted nipple Ø 148.62
11	9430-5027	Putty for nipple 300 gr
12	9508-6032	Silicone-coated fibreglass seal - (Metre)
13	9428-5095	Silicone filler tube 310 ml
14	8015-8927	Assembly rod Ø 12 - 300 mm
14	8015-8928	Assembly rod Ø 12 - 385 mm
14	8015-8929	Assembly rod Ø 12 - 420 mm
14	8015-8930	Assembly rod Ø 12 - 520 mm
15	9754-0120	Spring for assembly rod
16	8015-8902	Complete indicator with frame
17	8015-7700	Sight glass + Gaskets
18	8015-8914	Assembly rod Ø 14 - 1683 mm 14 sections
18	8015-8915	Assembly rod Ø 14 - 1796 mm 15 sections
18	8015-8916	Assembly rod Ø 14 - 1908 mm 16 sections
18	8015-8917	Assembly rod Ø 14 - 2021 mm 17 sections
18	8015-8918	Assembly rod Ø 14 - 2133 mm 18 sections
18	8015-8919	Assembly rod Ø 14 - 2246 mm 19 sections
18	8015-8920	Assembly rod Ø 14 - 2398 mm 20 sections
18	8015-8921	Assembly rod Ø 14 - 2511 mm 21 sections
18	8015-8922	Assembly rod Ø 14 - 2623 mm 22 sections
18	8015-8923	Assembly rod Ø 14 - 2736 mm 23 sections
18	8015-8924	Assembly rod Ø 14 - 2848 mm 24 sections
18	8015-8925	Assembly rod Ø 14 - 2960 mm 25 sections
19	8006-8906	Plain square flange + Gasket
20	8006-8907	Square flange with tapped hole + Gasket
21	9501-4155	Gasket 222 x 170 x 4
22	8112-0028	Plug 2"
23	8008-8904	Flange with outlet piece + Gasket 14 to 17 sections

Ref.	Code no.	Description
23	8008-8905	Flange with outlet piece + Gasket 18 to 25 sections
24	8008-8922	Nozzle + Gasket
25	8802-4731	Flow controller
25	8802-4733	Flow controller
25	8802-4734	Flow controller
25	8802-4735	Flow controller
25	8802-4736	Flow controller
25	8802-4737	Flow controller
25	8802-4738	Flow controller
25	8802-4739	Flow controller
25	8802-4740	Flow controller
25	8802-4742	Flow controller
25	8802-4743	Flow controller
25	8802-4744	Flow controller
25	8802-4745	Flow controller
25	8802-4746	Flow controller
25	8802-4750	Flow controller
25	8802-4751	Flow controller
25	8802-4752	Flow controller
25	8802-4753	Flow controller
25	8802-4754	Flow controller
25	8802-4755	Flow controller
25	8802-4756	Flow controller
25	8802-4757	Flow controller
25	8802-4759	Flow controller
26	8008-8908	Flange with return piece + Gasket 14 to 17 sections
26	8008-8909	Flange with return piece + Gasket 18 to 25 sections
27	8008-8924	Diaphragm + Gasket
28	8228-8905	Complete articulation of furnace plate
29	9757-0424	Plain furnace door
30	9755-0236	Furnace door guard
31	9755-0235	Furnace door insulation
		On demand
29	9757-0425	Furnace door Ø 165
29	9757-0426	Furnace door Ø 186
29	9757-0427	Furnace door Ø 210
29	9757-0428	Furnace door Ø 295
29	9757-0429	Furnace plate Ø 240
29	9757-0433	Furnace plate Ø 290
29	9757-0434	Furnace plate Ø 350
32	8008-8915	Furnace plate hinge
33	8555-8592	Bag of screws for furnace door
34	8555-5528	Flue gas outlet
36	9504-6115	Thermocord gasket Ø 15 - (Metre)
37	8555-5508	connection plate Ø 400 + Gasket

PROVISOIRE

Ref.	Code no.	Description
37	8555-5506	connection plate Ø 300 + Gasket
37	8555-5507	connection plate Ø 350 + Gasket
37	8555-5509	Plain connection plate + Gasket
38	9508-6041	adhesive gasket 15 x 9
39	8555-5514	Left-hand sweeping door + Thermocord
40	8555-5541	Right-hand sweeping door + Thermocord
41	8555-5510	sweeping cover N1 + Thermocord
42	8555-5511	sweeping cover N2 + Thermocord
43	8555-5512	sweeping cover N3 + Thermocord
44	8555-5513	sweeping cover N4 + Thermocord
45	8555-8593	Bag of screws for sweeping door
46	9508-6032	Silicone-coated fibreglass seal
47	8555-5515	Complete lock
48	8259-0010	Upper baffle
49	8008-8910	Distributing tube + Gasket 15 and 16 sections
49	8008-8911	Distributing tube + Gasket 17 to 19 sections
49	8555-5502	Distributing tube + Gasket 20 to 22 sections
49	8555-5503	Distributing tube + Gasket 23 and 24 sections
49	8555-5504	Distributing tube + Gasket 25 sections
52	9434-5103	Retouching spray paint - White
52	9434-5102	Retouching spray paint - anthracite grey
		Cleaning tools
60	9696-8026	Brush for plate
61	8013-8704	Metal brush + rod 1800 mm 14 to 15 sections
62	8015-8716	Metal brush +rod 1300 mm + extensions for 16 to 22 sections
62	8015-8723	Metal brush + rod 1800 mm + extensions for 23 to 25 sections
63	9750-5103	scraper 1200 mm
63	9750-5106	scraper 1500 mm
63	9750-5108	scraper 1800 mm
		Insulation
		Insulating material for body
70	8555-5520	Complete insulating material for body 14 sections
70	8555-5521	Complete insulating material for body 15 sections
70	8555-5522	Complete insulating material for body 16 and 17 sections
70	8555-5523	Complete insulating material for body 18 and 19 sections
70	8555-5524	Complete insulating material for body 20 sections
70	8555-5525	Complete insulating material for body 21 and 22 sections
70	8555-5526	Complete insulating material for body 23 and 24 sections
70	8555-5527	Complete insulating material for body 25 sections
		Insulating material for sweeping covers
71	8555-5533	Complete insulating material for sweeping covers 14 sections

Ref.	Code no.	Description
71	8555-5534	Complete insulating material for sweeping covers 15 sections
71	8555-5535	Complete insulating material for sweeping covers 16 and 17 sections
71	8555-5536	Complete insulating material for sweeping covers 18 and 19 sections
71	8555-5537	Complete insulating material for sweeping covers 20 sections
71	8555-5538	Complete insulating material for sweeping covers 21 and 22 sections
71	8555-5539	Complete insulating material for sweeping covers 23 and 24 sections
71	8555-5540	Complete insulating material for sweeping covers 25 sections
		Casing
80	8555-8008	rail 1225 mm
80	8555-8009	rail 1365 mm
80	8555-8010	rail 1475 mm
80	8555-8011	rail 1565 mm
80	8555-8012	rail 1675 mm
80	8555-8013	rail 1765 mm
80	8555-8014	rail 1875 mm
80	8555-8015	rail 2025 mm
80	8555-8016	rail 2165 mm
80	8555-8017	rail 2275 mm
80	8555-8018	rail 2365 mm
81	8555-8021	supplementary rail 1246 mm
82	8555-8035	left-hand cable channel 1260 mm
82	8555-8036	left-hand cable channel 1400 mm
82	8555-8037	left-hand cable channel 1510 mm
82	8555-8038	left-hand cable channel 1600 mm
82	8555-8039	left-hand cable channel 1710 mm
82	8555-8040	left-hand cable channel 1800 mm
82	8555-8041	left-hand cable channel 1910 mm
82	8555-8042	left-hand cable channel 2060 mm
82	8555-8043	left-hand cable channel 2200 mm
82	8555-8044	left-hand cable channel 2310 mm
82	8555-8045	left-hand cable channel 2400 mm
83	8555-8048	right-hand cable channel 1260 mm
83	8555-8049	right-hand cable channel 1400 mm
83	8555-8050	right-hand cable channel 1510 mm
83	8555-8051	right-hand cable channel 1600 mm
83	8555-8052	right-hand cable channel 1710 mm
83	8555-8053	right-hand cable channel 1800 mm
83	8555-8054	right-hand cable channel 1910 mm
83	8555-8055	right-hand cable channel 2060 mm

PROVISOIRE

Ref.	Code no.	Description
83	8555-8056	right-hand cable channel 2200 mm
83	8555-8057	right-hand cable channel 2310 mm
83	8555-8058	right-hand cable channel 2400 mm
84	8555-8080	additional cable channel 1196 mm
85	8555-8066	central upper plate 1131 mm
85	8555-8067	central upper plate 1271 mm
85	8555-8068	central upper plate 1381 mm
85	8555-8069	central upper plate 1471 mm
85	8555-8070	central upper plate 1581 mm
85	8555-8071	central upper plate 1671 mm
85	8555-8072	central upper plate 1781 mm
85	8555-8073	central upper plate 1931 mm
85	8555-8074	central upper plate 2071 mm
85	8555-8075	central upper plate 2181 mm
85	8555-8076	central upper plate 2271 mm
86	8555-8079	additional central plate 1196 mm
		Common parts
87	8259-8014	Lower front crosspiece
88	8555-8515	Fastening bracket for front side pane
89	8259-8818	Complete lower front side panel
90	200007613	Complete upper front panel
91	8555-8517	Complete lower front panel
92	8555-8518	Upper rear panel
93	8259-8021	Lower left-hand rear panel
94	8259-8022	Lower right-hand rear panel
95	8259-0518	Panel for furnace door
96	8555-8519	Control panel trim
97	8555-8520	Rear cover for standard control panel
98	8555-8521	Control panel bracket
99	8259-8055	Lower rear crosspiece
100	8555-8522	Upper crosspiece
101	8555-8526	Intermediate upper crosspiece
102	8555-8082	Joining central plate
103	8555-8523	Lower tab of rail
104	8555-8022	Upper bracket
105	8555-0526	Upper front crosspiece
106	9532-0780	Clamp
107	9775-8859	Rapid nut
108	8555-8525	Fasteners for common parts
		Front side casing
110	200007426	Front side panel - 800 mm
110	200007427	Front side panel - 940 mm
110	200007428	Front side panel - 1050 mm
111	8555-8514	Fasteners for front side panel
112	8555-8507	right-hand upper front plate for sweeping 800 mm

Ref.	Code no.	Description
112	8555-8508	right-hand upper front plate for sweeping 940 mm
112	8555-8509	right-hand upper front plate for sweeping 1050 mm
112	8555-8510	left-hand upper front plate for sweeping 800 mm
113	8555-8511	left-hand upper front plate for sweeping 940 mm
113	8555-8512	left-hand upper front plate for sweeping 1050 mm
		Rear side casing
114	8555-8500	rear side panel 400 mm
114	8555-8501	rear side panel 600 mm
115	8555-8513	Fasteners for rear side panel
116	8555-8505	upper rear plate for sweeping 400 mm
116	8555-8506	upper rear plate for sweeping 600 mm

PROVISOIRE

Warranty

You have just purchased one of our appliances and we thank you for the trust you have placed in our products. Please note that your appliance will provide good service for a longer period of time if it is regularly checked and maintained. Your fitter and our customer support network are at your disposal at all times.

■ Warranty terms

Starting from the purchase date shown on the original fitter's invoice, your appliance has a contractual guarantee against any manufacturing defect.

The length of the guarantee is mentioned in the price catalogue.

The manufacturer is not liable for any improper use of the appliance or failure to maintain or install the unit correctly (the user shall take care to ensure that the system is installed by a qualified engineer). In particular, the manufacturer shall not be held responsible for any damage, loss or injury caused by installations which do not comply with the following:

- applicable local laws and regulations
- specific requirements relating to the installation, such as national and/or local regulations
- the manufacturer's instructions, in particular those relating to the regular maintenance of the unit
- the rules of the profession.

The warranty is limited to the exchange or repair of such parts as have been recognised to be faulty by our technical department and does not cover labour, travel and carriage costs. The warranty shall not apply to the replacement or repair of parts damaged by normal wear and tear, negligence, repairs by unqualified parties, faulty or insufficient monitoring and maintenance, faulty power supply or the use of unsuitable fuel. Sub-assemblies such as motors, pumps, electric valves etc. are guaranteed only if they have never been dismantled.

PROVISOIRE

PROVISOIRE

PROVISOIRE



Authorized User No. 00284



RS 33961

Baxi Commercial
Wood Lane, Erdington,
Birmingham B24 9QP

Sales: **0845 070 1056** Technical: **0845 070 1057**



Email: potterton.commercial@baxicommercialdivision.com
www.pottertoncommercial.co.uk

POTTERTON
COMMERCIAL

heating specialists